AIR TRANSPORTATION

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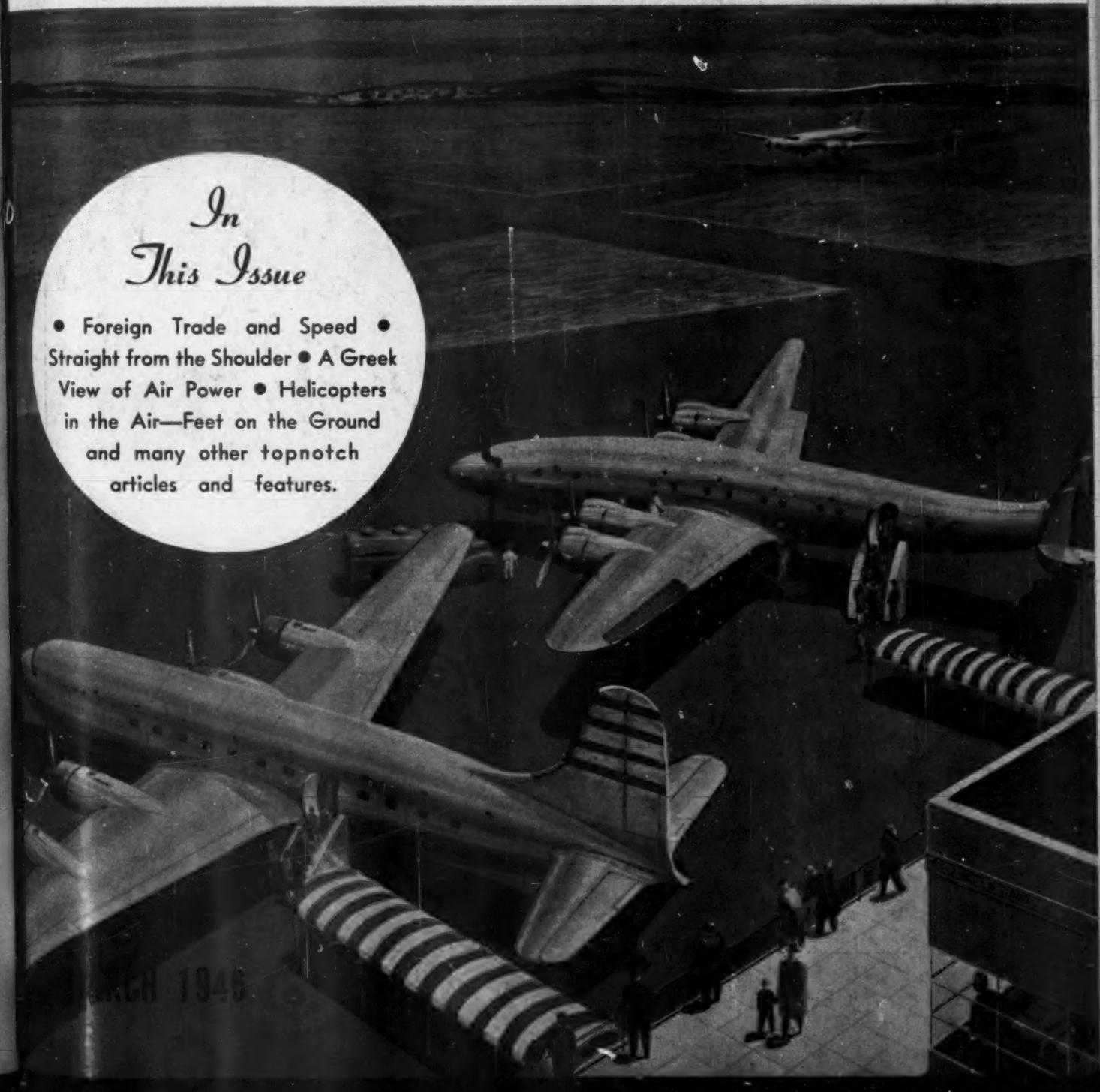

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• Foreign Trade and Speed • Straight from the Shoulder • A Greek View of Air Power • Helicopters in the Air—Feet on the Ground and many other topnotch articles and features.

Panagra

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(Trade Mark)

ONE of the new **Boeing Model 400** single-engine five-in-one fighter planes is to undergo tests by the Air Technical Service Command. Model 400 is capable of speeds in excess of 450 miles per hour, has six 20-millimeter remote control cannon mounted in the wings, and can carry up to 3,200 pounds of bombs. When used as a torpedo plane, it packs two 2,000-pound torpedoes in its bomb bay.

J. T. Dyment, engineering superintendent of **Trans-Canada Air Lines,** has been awarded the Czowski Gold Medal for 1945 by the Engineering Institute of Canada for his paper: *The Engineering Selection of an Airline Airplane.*

Edward S. Safford, export sales manager of **Beech Aircraft Corporation,** became the first executive of that company to travel to Europe since VE-Day, when he flew across the Atlantic last month to discuss with the Netherlands Government its recent purchase of eight Beech 18S twin-engine trainers.

The second of **Pennsylvania-Central Airlines'** postwar fleet of 57-passenger, four-engine *Capitaliners* went into service on March 1, providing additional daily fast flights linking Norfolk, Washington and Chicago, and giving Cleveland 57-passenger service for the first time.

The **First Joint Air Defense Conference,** sponsored by the **National Aeronautic Association,** was postponed from February 22-23 to March 29-30 at the Hotel Mayflower in Washington, D. C.

The first airline ticket and reservations office to resume operations in the downtown financial section of New York since the end of the war was opened by **American Airlines** last month at 120 Broadway, in the lobby of the Equitable Building.

Captain Eddie Rickenbacker, president and general manager of **Eastern Air Lines,** recently testified before the Civil Aeronautics Board at Philadelphia, Pa., in behalf of EAL's proposal to establish new air service for 24 communities in New Jersey, Delaware, Maryland, Pennsylvania, West Virginia and Ohio.

Directors of **Pan American World Airways** have approved the final transfer of control of **Compania Mexicana de Aviacion, S. A.,** from PAA to citizens of Mexico.

A 32-page booklet, which explains in non-technical language the operation and some of the uses of a jet engine, has been issued by **Thompson Products, Inc., Cleveland, Ohio,** and may be obtained free of charge.

TWA has inaugurated regular passenger flights between Philadelphia, Pa., and Paris, France.

(Continued on Page 40)

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AIR TRANSPORTATION
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March 1946

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THE COVER—The new DOUGLAS DC-6 and the LOCKHEED CONSTELLATION 49 taking on scores of passengers for swift transportation to points thousands of miles away. This picture is reproduced through the courtesy of CURTISS ELECTRIC PROPELLERS, a division of CURTISS-WRIGHT CORPORATION.

JOHN F. BUDD, *Editor and Publisher*

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Publishers of CUSTOM HOUSE GUIDE *and* AMERICAN IMPORT & EXPORT BULLETIN

Publication Office:
TEN BRIDGE ST., NEW YORK 4, N. Y.
Phone: WHitehall 4-2898

Business Manager: B. L. WEST
Managing Editor: RICHARD MALKIN
Advertising Mgr.: HENRY W. FISCHER

Mid-West Representatives:
WYATT MACGAFFEY and F. R. JONES
228 North LaSalle St., Chicago, Ill.
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Added performance is given to the Luscombe Silveraire with the installation of a Model R002 Beechcraft Controllable Propeller. The blade length is 72 inches, the engine a Continental.

FOREIGN TRADE AND SPEED

By General Harold R. Harris

Vice President and General Manager, American Overseas Airlines

IN some quarters the subject of commercial aviation's future in foreign trade is an alarming one. In any quarter, it is controversial. I am *not* going to say what commercial aviation's future may be in foreign trade. I *am* going to ask my readers to weigh some of the major factors involved, and leave the conclusions to their considered judgment.

What is it that commercial aviation has to sell? Just one thing—*speed*. . . . Speed of delivery of a physical object, be it man, mail, or material, from Point A to Point B on the earth's surface.

If one of us could walk to the nearest telegraph office, deliver a parcel containing a dozen thermos jugs and, at a reasonable fee, arrange to have the telegraph company transmit them, by disintegration of the molecules of the jugs at Chicago or New York and reintegration of those same molecules at London or Paris, it is very doubtful whether I would be writing on the subject of commercial aviation's future in world trade. If this transmission of physical things could be accomplished at the rate of 186,000 miles a second, which is the speed of electrical impulses, it is perfectly evident that none of the speeds which we now consider fantastic as regards air travel, would have appeal. Since we can't go through the process I have just described, the next fastest thing from here to London, or from any city to any other point distant more than perhaps 100 miles, is the airplane.

Big Asset

Speed is the one great asset of the commercial aircraft. What does that mean to Chicago, or Kankakee or Seattle, or any other point on the earth's surface? The commercial aircraft of today average, elapsed time, from Point A, about 5,000 miles in 24 hours. Taking the Windy City as an example, this takes the passenger, his correspondence, and his shipments from Chicago to Siberia, from Chicago to Chile, from Chicago to Brazil, from Chicago to Africa, from Chicago to Poland and Russia, or from Chicago to other continental European points, in one day's time. Tomorrow a one-day radius of travel by air from any point will extend perhaps 6,000 miles.

We have something else to offer which I will not dwell upon in these

Gen. Harold R. Harris

pages, as volumes could be written on the subject of comfort of air travel. Those who have traveled by air in the United States will agree that comfort and even luxury is standard on a modern commercial airliner. The little attentions and courtesies rendered by the hostess, the clean, attractive surroundings, and the fine food served en route speak for themselves. This same high standard of excellence prevails on our international routes as well.

It is interesting to note that it was just 42 years ago last December that the first airplane was able to stagger off the ground, carrying itself and its operator for a few hundred feet. Therefore, it is folly to predict what the next 42 years of the Air Age will bring forth in increased speed and comfort, increased cargo capacity per unit, and decreased charges per pound of commercial load.

FOR POINTS OVERSEAS—An American Air-Airlines Skymaster, its nose pointed toward a foreign airport, flying over the New York area. According to General Harris, "any article which can be gotten into an airplane, either complete or in sections, and which is not so heavy that the airplane cannot carry it, not only will be, but has been carried by air under some circumstance somewhere in the world—not as a stunt, but as an economic delivery."

But, in this article, we are not interested in what *may* happen. We are interested in what is happening today, as it affects each of us in our attempts to foster foreign trade. An actual experience is of interest. On February 1, 1946, a businessman left the United States and transacted business in Newfoundland, Ireland, Denmark, Sweden, Holland, and England. He was back in the United States on February 3, being away from his desk only 72 hours.

I agree he didn't spend a week at each point. He didn't have it to spend. But he was able to make a business trip at a total cost of $907, which included transportation, meals, tips, taxis, telephone calls, etc. This trip would have been impossible for the individual concerned, if it had not been for the availablity of air travel, since he could not be away from his desk long enough to undertake the trip to even one of these points by other means.

Air Services

You may not be interested in doing business at the points named, but that is not the only air service available to foreign destinations. You will be repaid by discussing with your local travel agent the transportation problems of yourself and your personnel. You will be even better repaid by talking to your local airline representative about your air mail and cargo problems. He will give you important information and recommend air transportation which will make money and satisfied customers for you and your organization.

And this foreign trade isn't a one-way street. The advantages that American businessmen secure from air travel are equally available to the people with whom you do business in other countries. They can write you, ship samples, complete consignments of goods, or come to see you, your stores and factories, without having to set aside a large portion of their business time for such foreign trips.

The pertinent questions at this point

are: *What do we do with this speed? What good is it to foreign trade? Nobody is going to move Point B before we get there. Take it easy, let's go slower!*

Let's explore that concept. Some of your ancestors may have traveled from New York to Chicago on foot, horseback, or by oxcart. It probably took them, barring accidents and incidents, three months. Most of you have traveled over the same route by rail, paying an extra fare, in 17 hours. It cost you a good deal more in money to travel this route than it cost your ancestors, but you were willing to pay more because your personal time is valuable. You were able to accomplish a constructive business endeavor by making the more expensive trip. You got back to your office in 17 more hours, and were able to institute new business ventures.

But the 17-hour schedule is still too slow for you. And what is true about your personal time is true about your correspondence. Taking an objective view of the exchange of the written word, this can be done much more rapidly by telegraph and cable, than by letter. If it were as cheap and as confidential to correspond by wire as by mail, there would be no air mail.

I remember an incident a good many years ago when I operated the first air mail service between the United States and South America. After a few weeks of operation, being very proud of this new, rapid communication method, I went to see a friend of mine who had for many years been in business in one of the Latin American capitals, representing a New York concern. I asked him what he thought of the air mail service, thinking that he would be very pleased with this closer link to his home office. Much to my amazement, half in fun and all in earnest, he cursed me up and down, and said:

"You have ruined my position!"

I ventured some doubt and he said:

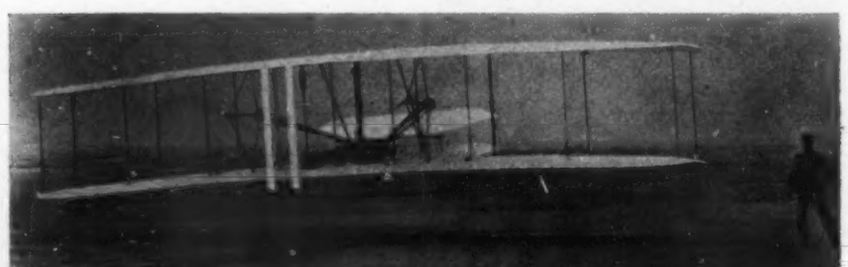
"Well, look—previous to your air mail service, I would write my principals about a complicated problem, a matter which it is impossible to handle by cable. It would take maybe two or three weeks for the letter to be picked up by a boat and delivered to New York, and take them a similar two or three weeks to get an answer back to me, outlining their policies in the matter. In the meantime, I would just go ahead and handle the business the way I wanted. Now you rascals have robbed me of all authority! I am a glorified clerk and all my major decisions are made for me in my headquarters in New York."

Important Aspect

This is an interesting sidelight on commercial aviation's future in world trade. The *headquarters* of a business can, through the instrumentality of commercial aviation, *run* its branches throughout the world.

You may say: "Certainly, I will have occasion to send and receive a good many letters by air mail in connection with my business, both foreign and domestic. I, or my staff, may find it desirable to make a number of inspections and survey trips by air to become familiar at first hand with local situations which are difficult of explanation by correspondence, but the aviation enthusiasts' claim that my goods are susceptible to economic shipment by air, is just beyond belief."

I will say this with complete conviction and without any possibility of challenge: any article which can be gotten into an airplane, either complete or in sections, and which is not so heavy that the airplane cannot carry it, not only will be, but has been carried by air under some circumstance somewhere in the world—not as a stunt, but as an economic delivery.



NOT SO LONG AGO—"It is interesting to note," writes General Harris, "that it was just 42 years ago last December that the first airplane was able to stagger off the ground. . . . Therefore it is folly to predict what the next 42 years of the Air Age will bring forth in increased speed and comfort, increased cargo capacity per unit, and decreased charges per pound of commercial load." Above is shown the first flight of a heavier-than-air machine on December 17, 1903. Orville Wright is at the controls while Wilbur runs alongside.

The Author

With 5,000 solo hours of flying time to his credit at the time he resigned (September 2, 1942) as senior vice president of Pan American-Grace Airways to accept a commission as colonel in the Army of the United States, GENERAL HAROLD R. HARRIS has a background encompassing many phases of military and commercial aviation.

Chief operations officer for Panagra at the time of his resignation, he served first as Plans Officer for the Air Transport Command. Subsequently, he served as Assistant Chief of Staff and Deputy Chief of Staff until March 8, 1943, when he was named Commanding Officer of the newly-activated ATC's Domestic Transportation Division. On October 8 of that year he was returned to ATC headquarters as Assistant Chief of Staff in charge of operations and training, and on August 21, 1944, he was promoted to Chief of Staff of the ATC.

General Harris began his flying career during World War I, when he was stationed in Italy. A lieutenant at the time, he was part of a group of Yank flyers among whom was Major Fiorello H. LaGuardia, New York's former mayor. From 1918 to 1925, he was test pilot and chief of the flight test section of the Army Air Corps. He was one of the builders of the first lighted airway, an 80-mile stretch between Columbus and Dayton, Ohio. He is the first Army man to have saved his life in an emergency parachute jump. At one time, in 1926, he held 13 world flying records.

Leaving active duty with the Army, Harris flew for a pioneering commercial enterprise—a job which took him to South America. His progressive ideas made him an instrument in the formation of Peruvian Airways, Inc., which later became Pan American-Grace Airways. Returning to civilian life last Fall, he was appointed to his present post as vice president and general manager of American Overseas Airlines.

This was particularly exemplified in the recent war where the yardstick of economy was very different from the yardstick which we normally consider in connection with commercial business. By again drawing on my personal experience, I can assure you that heavy mining machinery, sheet iron, nails, barbed wire, window glass, structural steel, as well as the more expensive and fragile articles which we normally think of in connection with air cargo, have been carried by air at a profit to both the shipper and the airplane operator. A specific example exists in Bolivia, where crude rock salt is cut from a salt lake with a saw, similar to the harvesting of ice of our lakes. This salt, full of dust, stones, twigs, and with no attempt at purifying, is carried by air a distance of 120 miles, the return cargo being tanned cattle hides which are cured with the airborne rock salt. This is profitable both to the airplane operator and to the businessmen involved.

ACCENT ON SPEED—The author points out that some of our ancestors "may have traveled from New York to Chicago on foot, horseback, or by oxcart. It probably took them, barring accidents and incidents, three months." Over the same route by rail, we pay more to arrive at our destination in 17 hours. "But the 17-hour schedule is still too slow for you," he says—which naturally pins plenty of attention upon the plane.

It is easy to counter by saying: "I don't have any such problem as that in my business."

Perhaps not, but most men in foreign trade have already found some circumstances under which air cargo shipments are worthwhile to them. I would hazard a guess that there are many more circumstances than most foreign traders have dreamed of where air shipments will make money for them and the men with whom they are doing business.

Inventory Reduction

One very straightforward example is the possibility of reduction on inventory stored at points distant from the factory or supplier. Those having such distant points will have a total inventory and warehousing that may represent a very important tying up of funds, in order to give proper service to customers. Additionally a factory may be so busy manufacturing the spares and parts to accomplish a complete inventory coverage that it is unable to go forward with the construction of additional models of the going type, or work on new models which the engineers have designed.

Three Fs are important in commercial aviation—*Fear, Fare and Frequency.*

Fear has been the greatest handicap to commercial aviation in the past, because of the history of accidents which for a long time were out of proportion to the normal travel hazards. Aircraft accidents still make the front page, but for each accident which now occurs, millions of passenger-miles are flown without incident. In 1943, for example, the total number of fatalities for various forms of transportation in the United States were:

Autos and taxis	9,800
Railroad passenger trains	271
Buses	130
Scheduled air transportation	23

It is interesting to note that the fatality *rate* for air travel in 1943 was one-twentieth of the rate for 1930. The extraordinary safety record achieved by the commercial and military airlines in the past five years is a matter of record, and sufficient answer to anyone still worried about the safety of himself or his shipments.

Fares, or air transportation rates, have been continually reduced, both domestically and in air operations to other countries. Still further reductions in this important item are contemplated. Fare is very closely tied in with the third F—Frequency—since increased volume and frequency automatically spread fixed charges with consequent lower quotation to the public. Many do not realize that today the United States is connected with Europe, where four-fifths of our foreign trade historically exists, by an average of *four round-trips per day by commercial aircraft.* Within the next few weeks additional services — perhaps twice as many as are now operated— will be at your service.

Commercial aviation is a *must* in foreign trade. We in the aviation business don't yet know all of the foreign traders' problems, but we are trying to learn. The foreign trader, on his side, can help us to develop our aircraft, routes, rates and facilities to assure maximum build-up of his business, our business, and the foreign trade of the United States in minimum time and with maximum profit for all.

Lower Transatlantic Rates Depend Upon Governments

In spite of optimistic rumors, there will be only a slight reduction in transatlantic air fares—and these hinge upon approval by the Governments involved of an agreement reached in New York as a result of the recent Atlantic Traffic Conference of the IATA.

Although first reports were that a $300 New York-London one way rate was possible, a temporary settlement named a $360 figure. Flights from London to Paris would be $375. Both carry the usual discounts for round trips. These rates cannot become effective before April 15 and will not continue beyond July 31.

Pan American Airways has fought for lower fares across the Atlantic, but both the British and the French have opposed such reductions. A proposed rate of $275 from New York to London and Paris met defeat. PAA has been insisting that it can make money at the lower rate, and American Airlines and TWA are reported to have shown a willingness to go along with this reduction.

Representatives of three United States transatlantic airlines and British, Canadian, French, Dutch, and Scandinavian air transport companies attended the parley.

U.S.-Italy Air Contract Attracts Britain's Fire

An Italian-American contract for the joint operation of Italy's internal airways has not met with the pleasure of the British, according to an informed report from Rome. The British are represented as being angry over America's entrance into the international air transport field, because they feel that the United States is trespassing on her territory.

It is understood that the Italian Foreign Office has received a protest through the British Embassy charging that negotiations had been carried on with Transcontinental and Western Air without the knowledge of the British Government. This charge is reported as untrue. Before the contract becomes operative it must be ratified first by the Italian Cabinet, second by Allied Headquarters, and third by the Combined Chiefs of Staff.

Straight from the Shoulder

The Air Transport Association's new executive vice president looks at air transportation through the eyes of an experienced legislator. He sees our present customs, immigration, and public health laws and regulations as "developed in an age of slow travel." A change to more modern methods is needed, and the ball has been started rolling in the right direction.

By ROBERT RAMSPECK

Executive Vice President
Air Transport Association of America

LONG experience in the Congress provides a broad view of national problems and policies and a knowledge of foreign affairs, if one works at being a Congressman—and I have. Consequently, my thinking about air transport has related it to the broad national problems with which I have been dealing for many years.

For more than three years I served as the Democratic whip in the House. The whip must know much of every legislative proposal brought before that body for consideration. He must not only know the arguments for the legislation being supported by the House leadership, but must also know the arguments against the measure. Only in this way is he prepared to answer the points made in opposition.

It is interesting to see how air transport affects the broad national policies and contributes to the solution of difficult national problems.

The United States is a new participant in international affairs and has only recently assumed responsibility in that field. How does air transport relate to our new role?

In the first place, air transport made us a participant in international affairs. You cannot isolate our country when its citizens can travel from Washington to Paris in less time than I can travel from Washington to Atlanta by rail. Air travel has, in effect, brought the peoples of the world closer together in point of time than were the citizens of the United States a century ago. It has made the world smaller.

In the second place, air transport is helping us to participate effectively. It has brought face-to-face handling of diplomatic problems. We no longer conduct our relations with other nations through the slow process of note writing. Our representatives hop a plane and meet with the persons representing our allies across the table. It is a much better method. It makes for more satisfactory relations. It holds the promise of making international cooperation for peace work satisfactorily.

It also will mean more travel by the citizens of all nations. They will come to know each other, to understand the customs of all the various nations. This will also tend to promote peace and understanding.

One of the vital objectives of our country is the promotion of foreign trade. Former Secretary of State Cordell Hull did much to remove the barriers to trade with other nations. He argued that this policy would promote better understanding and tend to bring peace. With that position I agree. He also contended that foreign trade would promote the prosperity of our own nation. With that I also agree. How does air transport fit in with this objective?

L. Welch Pogue, chairman of the Civil Aeronautics Board, made a speech in Montreal some time ago, which impressed me very much. It dramatically pointed out how each improvement in transport promoted trade and travel.

The experience of our own nation has demonstrated the truth of this. As we have expanded and improved our methods of transport, as we have increased the speed and ease of travel, our country has grown and our exchange of commodities have increased. Because of air transport it takes less time today to do business everywhere. We are seeing constantly evidence of the effect of this improvement. More people are traveling. New products are coming to markets. Business is being expanded.

This works both ways. We cannot expect air transport itself to develop unless our whole national policy along this line is successful. Airlines cannot progress if world conditions are such that there is nothing to haul. General conditions will vitally effect all modes of transport.

Our present laws and regulations relating to customs, immigration, and public health barriers were developed in an age of slow travel on the surface. It is time to reexamine these matters in the light of the changes brought about by air transport. We must not let out-of-date methods slow by air travel and transport to the point where the increased speed now available is dissipated by the delays which made little difference when we depended upon the slower surface transportation. A movement has been started to study our present methods of handling customs, immigration and public health regulations. It is expected that more modern

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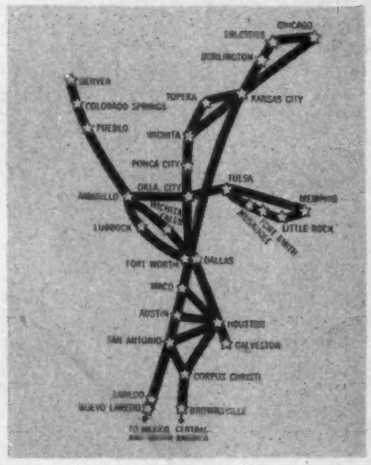

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Among the prominent men who have contributed to the Institute's training plan, which is described in "Forging Ahead in Business," are: Thomas J. Watson, President, International Business Machines Corp.; Clifton Slusser, Vice President, Goodyear Tire & Rubber Co.; Frederick W. Pickard, Vice President and Director, E. I. du Pont de Nemours & Co.

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The Author

Editor, publisher, lawyer, State legislator and Congressman, ROBERT RAMSPECK, now holds the post of executive vice president of the Air Transport Association of America.

Born in Decatur, Georgia, in 1890, he was educated in the public schools of that city and Griffin, and received his Bachelor of Law degree at Atlanta Law School. He published *The De Kalb New Era* at Decatur, and served as secretary for two Chambers of Commerce. Ramspeck was elected to Congress in 1929 to fill the unexpired term of Leslie J. Steele. When he resigned several months ago, he was Democratic whip.

regulations will eliminate most of the present delays. Our methods must be geared to the *newer* methods of transport.

My long experience as a member of the House Committee on Merchant Marine has brought to me an understanding of one of our great national objectives—that of the development of our international carriers to the point where they carry a substantial part of our international trade and travel. It was for this purpose that we passed the Merchant Marine Act of 1936.

New Preeminence

We had lost our preeminence in the field of the surface merchant marine. We had not recovered it when the Second World War came. It is true that we were making every effort to again have the ships of our country participate in this trade and travel throughout the world. There we have a difficult problem due to higher costs of construction and operation.

We now have preeminence in air transport. We must keep it. Once lost, it will be difficult to regain, also expensive. In this field, thanks to the skill and ability of management and labor we can meet our competitors in the cost of construction. In fact, many foreign countries buy their planes in this country.

As a part of the retention of our preeminence in air transport we must retain preeminence in the manufacture of planes. We should not permit the loss of this great advantage.

Many national policies have as their objective the promotion of domestic prosperity. There can be no more important item among our national policies.

The huge burden of the national debt can be lessened only through a high national income. To that end we have planned reconversion. It includes high level employment goals, public works construction by local and the national government, including a vast road and highway program and a national system of airports. How does air transport fit into this plan?

It will speed reconversion through rapid transport of passengers and cargo. Business can and will be conducted at a more rapid tempo. *More business can be done in a given period of time.*

Air transport directly aids domestic

BACK ON HOME SOIL—"Our representatives," writes Robert Ramspeck, "hop a plane and meet with the persons representing our allies across the table. It holds the promise of making international cooperation for peace work satisfactorily." Above (left to right) are Senator Arthur Vandenberg, Mrs. Eleanor Roosevelt, Edward Stettinius, John F. Dulles, and former Senator John Townsend, after their arrival at LaGuardia Field from London via Pan American World Airways Clipper.

MEANING WRITTEN IN THE SKY: The author stresses that there will be "more travel by the citizens of all nations. They will come to know each other, to understand the customs of all the various nations. This will also tend to promote peace and understanding." Seagram Distillers Corporation have captured just this theme in the above illustration. Following is the key from New York: A—London; B—Thailand; C—Mexico City; D—Paris; E—Juneau; F—Moscow; G—Cairo; H—Johannesburg; I—Gilbert Islands; J—Sydney.

prosperity. It is a rapidly expanding business. It is providing many new jobs. New routes not only furnish additional employment opportunities, but also call for more office and operating space, as well as new construction of facilities.

CAB figures show that during 1945 the domestic airlines added 4,042 route-miles, bringing the total to an all-time high of 66,976. At the same time, international route-miles of the United States flag airlines rose to 106,197.

Schedules Increased

The number of schedules also has increased. For instance, between 22 important pairs of cities, 131 flights were added during the 12 months ended October 1, 1945. More recent additions also have been made and the ratio for the entire country promises to rise now that the flow of available planes is mounting.

The airlines are giving special emphasis to the employment of veterans. They are welcoming back those who left the companies during the war, and many others are being employed because of the rapidly expanding business volume transacted as compared with the prewar period.

Since I have been in air transport only a little more than two months, this may be a good time for me to take an objective look at the industry. Perhaps later I will be like the man in the forest —I will not be able to see the forest because of the trees. Now I can see air transport with the eyes of a passenger —one who has done considerable traveling by air.

Courtesy on the part of the employees has been one of the greatest factors in the growth of air transport. We must not lose it.

The initiative and imagination of air transport management, their willingness to try new methods and to improvise has made our air transport system. This attitude must be retained.

One of the outstanding features of air transport is the keen spirit of rivalry between companies, coupled, as it is, with a willingness to cooperate regarding mutual problems. Because of this the public benefits in greater safety, decreased expense and better service. The public has its cake and eats it, too.

Necessities Noted

However many things must be improved.

The ticketing procedure seems slow and cumbersome. What will happen when we must get 56 passengers on each plane instead of 21?

Passengers and shippers are entitled to 100 percent dependability. The airlines must provide a system that can be relied upon to get persons and property to their destination on schedule.

Seating capacity must be increased. At present the demand cannot be met for many who seek seats. The facilities at airport must be improved. Ground transportation—that is, travel to and from cities to airports — must be speedier, less expensive and less difficult. Many other things might be added to these items I have discussed as needed improvements.

A survey recently completed by the Air Transport Association indicates that by the end of this year or early next year, the airlines of the United States — domestic and overseas — will have at least 1,239 planes capable of seating 49,757 passengers and flying 10 billion miles annually. This means a fleet of planes three times the prewar number of 359 and seven times the prewar seats, numbering only 6,250.

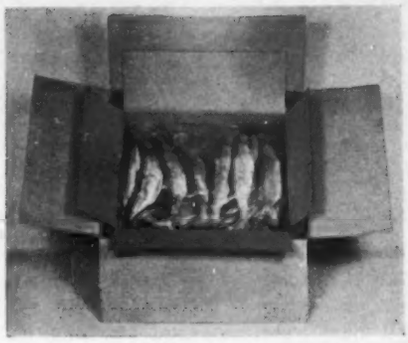
I have enough confidence in the management of the airlines to be sure that every effort will be made to provide a superior public service at the earliest possible moment.

So much progress has been made in air transport that we may be open to the danger of thinking that the development and promotional job is done. However, I do not think that is true.

(*Concluded on Page 39*)

SPEED IS THE THING—Passengers filling up a TWA Constellation for swift transportation to a city thousands of miles away. "Because of air transport," writes Robert Ramspeck, "it takes less time today to do business everywhere."

Packageers Converge On Atlantic City



AIRBORNE FISH—Pliofilm-wrapped trout in an Insulpak container.

THE American Management Association, which is sponsoring its fifteenth annual packaging exposition in Atlantic City's Public Auditorium for a four-day showing beginning April 2, is promising "quite a different sort of presentation" this year. By "different" the association means bigger; in fact, the press agent used the sweeping word, "colossal."

All things taken into account, the exposition will be somewhat on the huge side. Previously, the shows had been confined to hotel ballrooms. Next month's will be staged on the largest single exhibition floor in the country, more than 120 company exhibits dotting the near-four-acre space.

Another section of the building has been reserved for the packaging conference, which, judging from a preview of the topics to be discussed by leaders in the fields of shipping and packaging, has taken into its scope everything from Abigail to Zebulon.

What points up this packaging exposition as one of unusual importance —and this writer is not influenced by its admitted gigantic size—is that the conference will present the initial opportunity since the end of the war for the general airing of war-created problems and developments. Air cargo packaging hits the spotlight because of its newness and vast potentialities.

Among the exhibits particularly interesting to air shippers will be Pliofilm, product of the Goodyear Tire and Rubber Company. A recent test shipment of fresh fish, packed in Pliofilm, was singularly successful. Dr. Spencer A. Larsen, well-known director of Air Cargo Research, Wayne University, Detroit, has been placed on record as stating that it promises to revolutionize the entire fishing industry by cutting shipping costs to a minimum and expanding heretofore limited markets.

Dr. Larsen declared that fish, a highly perishable item under the best conditions, may be wrapped in Pliofilm and packaged in lightweight Pliofilm-lined insulated cardboard containers, with neither ice nor dry ice being employed. The shipping containers were manufactured by the Hinde and Dauch Company, of Sandusky, Ohio.

Tests on shipments have shown that fish, chilled to a temperature of about 35 degrees show a gain in temperature of not more than one-half degree per hour when the outside temperature is in the vicinity of 75 degrees. When dry ice is added to the carton, the temperature can be held constant. These tests have been made by Air Cargo Research in cooperation with the United States Fish and Wildlife Service.

This feature makes possible the elimination of bulky iced containers which add much to the cost of the product. According to Dr. Larsen's figures, shipment of 100 pounds of fish wrapped in Pliofilm requires a container weighing about 11 pounds while the same amount of fish shipped under present icing methods requires a container and ice weighing about 75 pounds. Detroit fish experts have said that fresh fish packaged and shipped in the new manner retains a superior quality, under proper control, for as much as seven days.

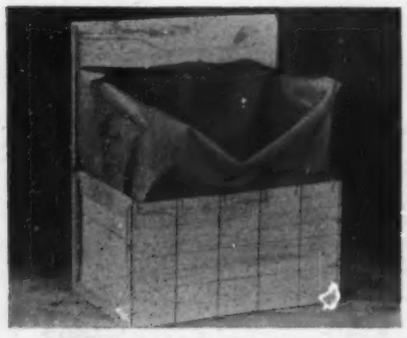
Dr. S. A. Larsen

CARGO BY PARACHUTE — The Storpedo, special designed for cargo drops.

Pliofilm played an important part in the war.

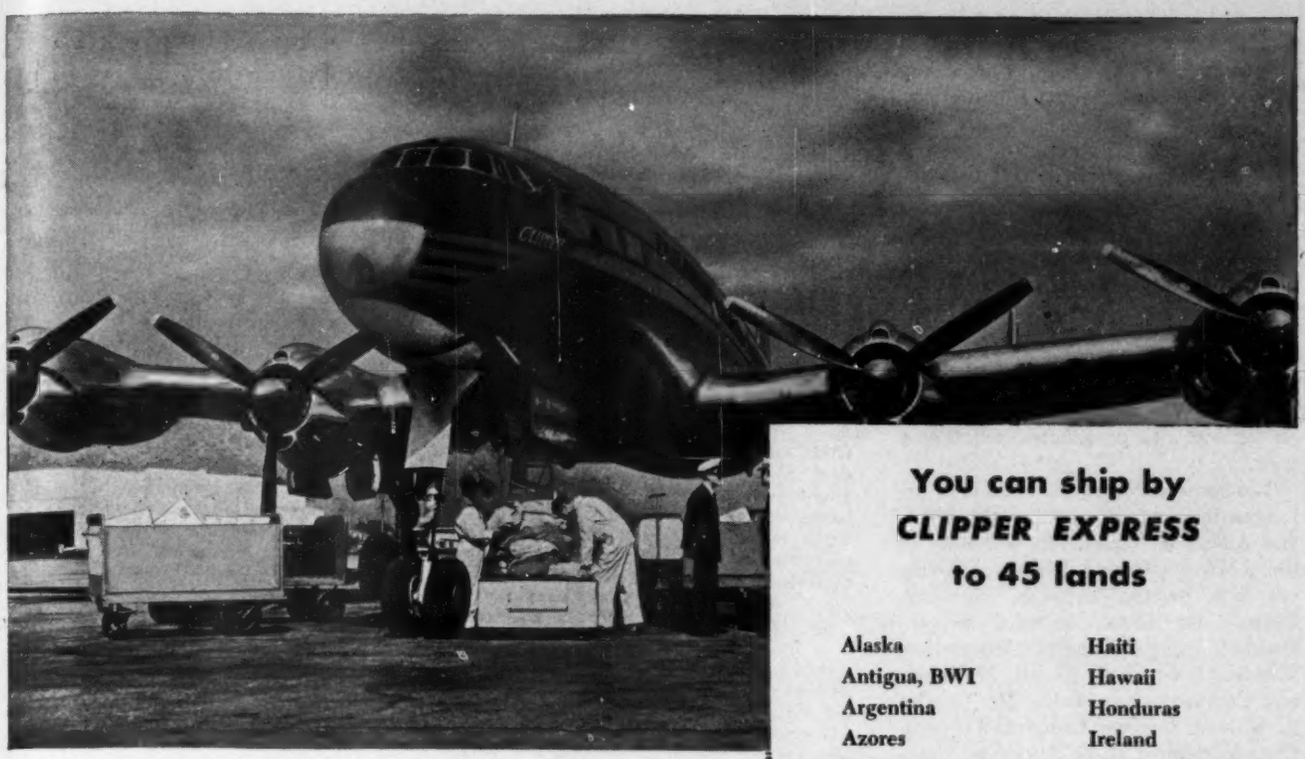
Aquastop, a war-born synthetic, impregnated, coated, and chemically-treated tough, flexible, and resilient waterproof liner fabric, manufactured by Protective Coatings Corporation, of Belleville, New Jersey, is another object meriting attention at the exposition. Possessing "breathing properties," Aquastop is reported to be able to resist corrosion from condensation within the package due to temperature changes.

The new liner fabric is said to withstand exposure to changes in temperatures from minus-20 degrees Fahrenheit to 175 degrees Fahrenheit at maximum relative humidity, without crack-



AQUASTOP—A packing case lined with Aquastop.

FLYING CHICKS—Hatched chicks flown in a specially designed container.



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ing, tackiness, flow, loss of flexibility, or waterproofness. All seams are caulked with Aquastop cement which effects a "chemical weld" of adjacent liner panels, thereby producing a completely sealed waterproof barrier between the contents and the exterior shipping box. Aquastop lends itself readily to the packaging of air shipped fresh foods.

Of course, for the air cargo-minded, the exposition does not stop with Pliofilm and Aquastop. Containers for the air shipment of goods, foods, and even baby chicks, are to be on display. Storpedo, a special paper container designed for use with parachutes, will be on view.

The conference program has been arranged by H. J. Howlett, of the AMA, and Albert W. Luhrs, vice president of the AMA Packaging Division. Speakers will include Paul E. Burbank, United Air Lines; Edward Detgen, Owens-Corning Fiberglas Corporation, Toledo, Ohio; C. H. Elwell, McKinsey and Company, New York; Dr. Charles E. Waring, Davison Chemical Corporation, Baltimore; R. G. Anderson, Sperry Gyroscope Company, Great Neck, New York; W. T. Black, Western Products, Inc., Newark, Ohio; H. E. Nack, Sharp and Dohme, Philadelphia, Pa.; Curtis H. Barker, Jr., Pallet Sales Company, New York; O. B. King, International Paper Company, New York; J. M. Ellis, G. C. Murphy Company, McKeesport, Pa.; Frank B. Fairbanks, Norix Manufacturing Company, Pittsburgh, Pa.; and Gerald Reinsmith, Ordnance Division, Was Department, Washington, D. C.

ACT Brings Down Air Cargo Rate to 20¢ per Ton-Mile

Air Cargo Transport Corporation has announced a cut in its domestic rates from 30 cents a ton-mile to 20 cents and the grouping of four separate rate classifications under one standard rate for all commodities. The rates are: 5,000 pounds, 20 cents a ton-mile; 4,000 pounds, 21 cents; 3,000 pounds, 22 cents; 2,000 pounds, 24 cents; 1,000 pounds, 25 cents.

H. Roy Penzell, president of the nonscheduled cargo airline, stated that the reduced rate was being offered so as to make air cargo transportation available to the greatest possible number of shippers. Even though larger shipments are cheaper, he added, ACT's new rates open the door for shippers of smaller quantities to employ air facilities economically.

"I sincerely believe in the future of air cargo transportation," said Penzell. "As truckers of the air we have only one thing to sell and that is service. If this service is to be available to a large number of shippers the rates must be within their means. We are offering these rates in the firm belief that increased traffic will more than justify them.

"I feel that a sufficient number of shippers will take advantage of the reduced rate to supply the additional traffic which makes it possible. By stepping up the utilization of our fleet of *Sky Vans* and reducing the operating cost through increased volume of cargo carried, we are able to offer the 20 cents a ton-mile domestic rate."

CHECKING OUT—H. Roy Penzell, president of Air Cargo Transport Corporation (right), who has been a pilot for 10 years, being checked out by Myron Nicholson during a recent flight to Cuba. Penzell flew submarine patrol during the war, but his executives duties have been keeping him away from the pilot's seat.

ACT is buying five more two-engined *Skytrains* and two four-engined *Skymasters*, which will give the corporation 17 aircraft in operation. Regional offices are also being opened at strategic transportation points throughout the country to develop new business and arrange for return loads.

Meanwhile, ACT is building the first commercial air cargo warehouse at the Newark Airport. Specially designed by Colonel Harvey K. Miller, superintendent of operations, to facilitate the loading and unloading of air cargo planes, the warehouse is 20 feet by 50 feet in dimensions and will accommodate the loads of five *Skytrains*. This can be increased in size as required.

One of the special features of the warehouse is the inside and outside loading platforms with an overhanging door from the warehouse into the hangar. This is to facilitate loading the planes inside the hangar during adverse weather conditions. The warehouse will be used to consolidate planeload shipments and to store incoming shipments pending the arrival of trucking facilities. In many instances the warehouse will not be used and shippers' trucks will deliver cargo directly to the planes. The cargo from the warehouse platform is moved to the plane from the cargo platform by a hydraulic Clark lift. The reverse procedure is true when the cargo is to be stored in the warehouse.

"Special Pleaders" Hit

The State Department has struck out at a group of alleged "special pleaders" responsible for the distribution of an anonymous document among Government officials and members of Congress. The document attacked the commercial aviation pact between the United States and Britain. George Baker, State Department official, said that "it is obviously special pleading of a group who consider it to their special interest at this time to oppose any form of bilateral agreement as a means of solving international air transport problems."

American Air Express To Begin Operations in April

Formation of the American Air Express Corporation—a transcontinental airline devoted solely to air express and cargo, and manned by experienced domestic airline personnel, with speed and safety standards identical to those of the established domestic airlines—has been announced today by John C. Lambert, president.

Flying time coast-to-coast will be 16 to 18 hours, with service starting early next month. The main line will connect New York and Boston on the East Coast with Los Angeles and San Francisco on the West. As soon as additional planes are available in the very near future, Lambert said, five feederlines will be added, linking key cities throughout the United States with the transcontinental roue. Douglas DC-3s will be the equipment.

Lambert stated that rates would be approximately the same now charged by the passenger lines flying express and cargo, but will include, without additional cost, the added advantage of door-to-door pickup and delivery service in from 30 to 36 hours, coast-to-coast. The company will handle industrial express for manufacturers and wholesalers, packages of all kinds of merchandise for the general public, and heavy cargo freight, including bulk shipments.

Other possible sources of business considered by the company include the shipment of money and valuables, now handled by armored trains, department store mail order business and the transportation of seeds, bulbs, and motion picture film.

The firm has an application on file with the Civil Aeronautics Board for a cargo certificate of convenience and necessity. Lambert stated that if the Post Office Department eventually decided to fly all first class mail, his company would be in a position to apply for mail routes, once the certificate is issued.

John C. Lambert

AAE's president is 32 years old, and a native of St. Louis. He has been flying for 14 years, having served at various times with domestic passenger airlines. During the war, he flew for the Air Transport Command, making 22 round-trip ferry flights across the Atlantic as a pilot.

The company's executive offices are at 522 Fifth Avenue, New York City, and operations headquarters at Newark Airport.

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A Greek View

AIR POWER...

For *Peace*

OR DESTRUCTION?

By Andre Michalopoulos

Minister Plenipotentiary in Charge of Information for Greece in America

I BECAME air-minded before my time. In the Summer of 1908, when I was 11 years of age, I was lucky enough to be passing my vacation in France with a French uncle who was an automobile manufacturer and who spent his Sundays experimenting with spherical balloons. He took me up twice to a height of about 6,000 feet and initiated me in the intricacies of manipulating sand and gas in order to find suitable directional cross-winds. This same uncle, Léon Bollée, invited Wilbur Wright to France and offered him his factory, technical facilities, and a flying field with which to develop his invention. Thus it happened that on October 7, 1908, I flew with Wilbur Wright in his rickety apparatus, which had to be shot from the ground by a catapult, on the first day that a passenger flight was ever made.

Wright made the following prophetic statement to me then, the full meaning of which I was too young to understand:

"My boy, this invention of mine is intended to serve the human race, and I hope it will; but I'm afraid that in your lifetime it may well become one of the world's most formidable instruments of destruction."

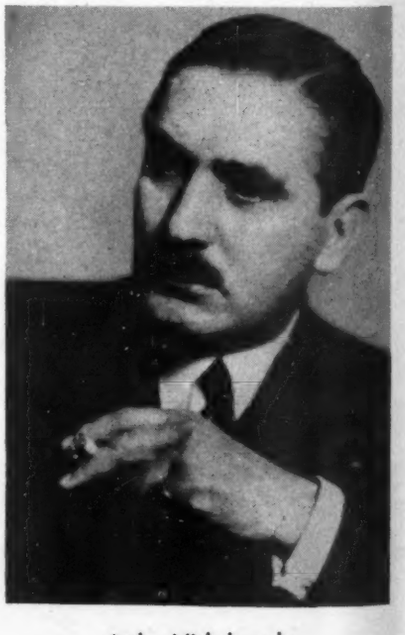
How right he was! True, we have seen the amazing services of aviation to peacetime communications, and further progress in this domain is evolving; but the dread capacities of the airplane and air missile for destruction, and the defense corollary of such offensive uses of air machines embodied in the proven doctrine of "Victory through Air Power," cause us to pause and think: *What of the future?* For in the hands of mighty power-politicians aviation is the most deadly force for evil.

Greece suffered horribly in the war. As Wilbur Wright predicted to the author nearly four decades ago, destruction rained from the skies. Will the plane be an important factor in the reconstruction of the land which gave the world its early culture?

I have been asked to write more especially about aviation in Greece. I have had some experience in this connection as my youthful baptism was followed up in later life by a long association with air communications. I helped to establish the first international airlines passing through Greece in the early Twenties, and was for many years general representative of Air France and Royal Dutch Airlines (KLM). The former line passed through Corfu and Athens and on the route from Paris-Marseilles to Syria, Iraq and Indo-China; the latter through Salonika and Athens on the route from Holland and Central Europe to Egypt, India, the Netherlands East Indies and Australia. In fact, Greece's extremely important strategic position as the bulwark of Western democracy in the Eastern Mediterranean basin make her a nodal point of international air communications.

Before the war, the following international airlines, in addition to Air France and KLM stopped in Greece: Imperial Airways (Britain), Lufthansa (Germany), Ala Littoria (Italy), Lot (Poland), and the Rumanian Airlines. Greece, herself, had a small but efficient national company (security 99.7 per cent)—the Hellenic Air Communications Company—with frequent services from Athens to Salonika, Epirus and Crete.

Greece cannot fail once more to become a vital center of air travel, and, sensing this, the United States through



Andre Michalopoulos

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For full information, schedules and rates—including special rates for shipments of 3,000 pounds or more—telephone your local TWA Airfreight office.

HEROES ALL—Wounded heroes of Greece's resistance army after their arrival at LaGuardia Field last month. They made the overseas flight in a TWA Constellation.

TWA is on the spot exploring possibilities. From the point of view of developing a closer and most necessary commercial and political relationship between this great democracy of the West and her small and faithful ally lying on the outermost fringes of the democratic world, the establishment of an efficient American airline passing through Greece would be most welcome.

In the war, Greece, too, was a nodal point. Her surprising six months of repeated victories over the Italian aggressor, seven times her size, saved Egypt; for it gave the British time to bring up reinforcements, and helped to save Russia, for it delayed Germany's surprise attack upon that country. But when 85,000,000 Germans came to the assistance of 50,000,000 Italians to save them from the clutches of 8,000,000 Greeks, the loathsome but efficient Huns crushed that small country by their mechanized might and chiefly by their air supremacy which at that time was total. They used it ruthlessly and well.

When they had invaded the mainland, I was evacuated on a small yacht to the island of Crete where the last stand was made by the British and the Greeks. Two bombers came over us at sunset on April 24, 1941, and dropped their fateful loads: one bomb went down our funnel and our boat went up. It was a calm and lovely evening and the flyers cruised around a few feet above the blue waters tinged with sunset purplings. They were pleased with themselves, for below them lay the wreckage of the boat, the corpses of the dead, and the survivors struggling in the sea. They leaned out of their fuselage, waved their hands, grinned diabolically, and zoomed away. True to Teutonic tradition.

As a result of German ferocity, 900,000 out of Greece's 8,000,000 population have been starved to death; 2,500,000 are diseased; the whole population is underfed; 600,000 are homeless; industries and agriculture are destroyed so that 70 percent of the people are unemployed. Such was the power of mechanized destruction over a small, defenseless people who remained faithful to their ideal of freedom.

What, then, of the future? Will air power serve mankind? Or will the Big Three continue the immoral power-politics game and complete Wilbur Wright's ominous prophecy by plunging the world in utter and final destruction?

The answer lies with America, the world's greatest democracy.

Editor's Note: When the war with Italy broke out, the total number of planes in the Greek Air Force was 75—most of them obsolete. The GAF was reorganized early in 1942, after the occupation of Greece, and was equipped with British aircraft. Greek pilots, navigators, and technicians were trained in Southern Rhodesia.

The Greeks distinguished themselves in the famous battle of El Alamein, as well as in raids over Crete, Italy, Yugoslavia, Albania, and occupied Greece. At the height of its aerial successes, the GAF consisted of three operational squadrons, using such aircraft as the *Spitfire* and the *Baltimore*. Before the war ended, the GAF was slashing back at the enemy from bases in its own liberated country.

Athens, the capital city of Greece, is considered one of the potentially important stopover points on international air routes.

The Author

ANDRE MICHALOPOULOS, Minister Plenipotentiary in charge of information in this country for the Greek Government, was educated at St. Paul's School, London, and Oriel College, Oxford, graduating from the latter with honors.

He served as private secretary to Prime Minister Venizelos in 1917; and from 1918 to the following year held the post of Civil Governor of Lemnos, Imbros, Tenedos, and Samothrace. Michalopoulos returned as private secretary to the Prime Minister from 1921 to 1924, later accepting the post of Governor of Corfu and adjacent islands. In 1925 he left public service for business, serving in various important executive capacities.

It was in 1940 that Michalopoulos began broadcasting nightly English commentaries from Athens during the Greco-Italian War. The next year he joined the Greek forces in Crete, soon winning the appointment of General Secretary of the National Committee of Greeks of Egypt for resistance. In August of 1941 he followed the Greek Government to South Africa, a month later being named to a Cabinet post. From 1941 to 1943 he lectured extensively in South Africa, Great Britain, and the United States. His articles have appeared in publications throughout the world, and he is also the author of two collections of verse. He has been decorated by a number of governments.

Interesting to note is the fact that Michalopoulos was the sixth passenger ever to go up in an airplane, and the first Greek to fly. His first flight established a world's passenger flight record which held good for several months: four minutes and 54 seconds. During the war he made two transatlantic flights in *Liberators* at 32,000 feet.

Greeks Appeal to PICAO

The Greek Government, in its appeal to the Provisional International Civil Aviation Organization for aid, has stated that it is not able to provide funds and technical means on the scale necessary to restore airfields and facilities along international air routes within the country. The request is being studied by a special committee, and its report is expected to be issued next month.

ONE OF GREECE'S CHIEF CASUALTIES—Thirty-eight years ago Wilbur Wright told the author of his fear that the plane would become an instrument of destruction. Now Andre Michalopoulos asks whether air power will make for peace or war. Millions of victims, like the one above, look to the West for the democratic spirit—and the plane can weld the link.

What Airline Executives Say About the New Martin Transports

C. Bedell Monro, *President*
Pennsylvania-Central Airlines

". . . will curtail ground time, reduce operating and maintenance costs, offer new comforts and safety and ultimately pave the way for lower fares."

Capt. Eddie Rickenbacker, *President and General Manager*, Eastern Air Lines

"Our engineers have made a long and close study of planes being offered for near-term deliveries by manufacturers and they concluded that Martin had designed the best of its class."

Carleton Putnam, *President*
Chicago and Southern Air Lines

". . . the perfect airplane for our type of operation. Delivery of the Martin 202 in 1947 will enable us to replace the DC3 with 5 mile a minute air service between our trunk line cities."

T. E. Braniff, *President*
Braniff Airways

"Continuing our policy of maintaining the best and latest equipment available to a commercial airline, we purchased Martin transports after long and thorough study of all entries in the 30-40 passenger plane field."

W. A. Patterson, *President*
United Air Lines

". . . will round out our equipment picture providing the same comfort and speed advantages in inter-city service as will be offered by our four-engined Mainliners on through, long-distance flights."

Experts agree that the nation's travelers will have the world's finest air transportation when they fly via Martin Airliner!

THE GLENN L. MARTIN COMPANY, BALTIMORE 3, MARYLAND.

Martin
AIRCRAFT

Builders of Dependable Aircraft Since 1909

THERE'S *Commerce* IN THE AIR!

IN peace, as in war, the commercial airplane stands prepared to transport passenger, mail and cargo destined for foreign countries at 10 to 15 times the speed of surface travel and ocean voyage.

This fact is borne out by actual and proposed schedules submitted by United States airlines which have thus far received the official nod of the Civil Aeronautics Board and its examiners to fly international routes over the vast transatlantic, transpacific and transcaribbean seas.

A compilation of figures by the Air Transport Association of America, representative of 23 domestic and international airlines, involving time consumed by air travel as compared with surface carriers, brings to light that the new schedules will bring the world to the doorstep of United States commerce. To American manufacturers interested in international business, this will mean additional openings to overseas markets. Particularly does this ring the bell for commodities which, because of high perishability, must move by the fastest method. And then there are goods with high valuation that can be flown to market economically.

Air Cargo Items

Among ready market articles that should shortly take to the air in greater abundance on an international scale are jewelry, wearing apparel, drugs and biologicals, foodstuffs, instruments and similar items small and compact in size and light in weight.

The airlines by no means have confined their cargo agenda to the transportation of salable goods. Speed with which repair parts and other critical equipment delivered via air to dealers and distributors in distant countries will more than offset any added cost involved at this stage. The demand for the rapid delivery of vital machinery and goods will gradually grow as countries, their industries left in shambles and their shelves laid bare by the ravages of war, turn to this nation for the necessary implements to restore world-wide commerce.

Air cargo, a comparatively new means of moving civilian goods across seas and insuperable terrain, admittedly faces the task of developing commodity traffic virtually from scratch by seeking out goods that can (1) use speed, (2) bear the expense thereof, and (3) find shippers willing to incur that cost.

Articles of commerce with a high value seemingly offer the best opportunity for air cargo during the immediate era. In this respect it may be well to mention that United States exports and imports in 1939 which exceeded $1,000 per ton in value, amounted to 231,809 tons.

ROUTE		Air Time (in hours)	Surface Time (in hours)
From	To		
New York	Algeria	18:50	192
"	Arabia	34:40	...
"	Berlin	17:18	144
"	Bermuda	3:30	72
"	Bombay	39	504
"	Buenos Aires	21:30	408
"	Cairo	24:25	264
"	Ceylon	46:05	504
"	Chungking	38	720
"	Copenhagen	14	216
"	Greece	22:50	216
"	Havana	6	72
"	Iraq	32:35	312
"	Ireland	12:20	148-216
"	Lisbon	11:35	192
"	London	12	120-216
"	Mexico City	16	...
"	Montreal	3	...
"	Moscow	20:45	192
"	Newfoundland	4:40	...
"	Palestine	28:50	288
"	Panama	10	120
"	Paris	15:15	120-216
"	Rio de Janeiro	19:20	264
"	Rome	18:15	168
"	Spain	16:15	144
"	Stavanger	13	168
"	Stockholm	14:30	216
"	Switzerland	17:10	148-240
"	Tunisia	21:05	192
Miami	Havana	1:30	13:30
"	Nassau	1:20	19
Los Angeles	Sydney	32	456
San Francisco	Calcutta	28	...
"	Honolulu	10	144
"	Manila	33	360
"	Shanghai	36	504
"	Tokyo	28	382
Seattle	Anchorage	5:20	168
"	Manila	32:20	575
"	Shanghai	27:15	480
"	Tokyo	21:40	336

Direct Service

Cargo flown to its destination stands to benefit from the avoidance of rehandling and transferring, plus packing requirements, which adds to the cost surface transportation. For instance, it will be possible to move goods by air from New York to London without rehandling, whereas the fastest steamship services involve transfer at Southampton, entailing additional charges for the haul to London.

Later, when an acceptable streamlined all-cargo plane is designed by aircraft manufacturers, the airlines expect to be able to lower their tariff rate and thereby open the way for the shipment of the more common variety of items.

Airlines are not entering the international transportation field blindly. There were 80,000 miles of overseas routes in operation during prewar years. With the outbreak of hostilities, the airlines locked arms with the Army Air Transport Command and the Navy Air Transport Service to blaze new trails over 200,000 miles of air transport network throughout the world in rushing emergency supplies to combat zones..

Today there are 100 overseas applications on file with the CAB, which has indicated that about 140,000 miles of foreign routes will be sufficient to encircle the globe in peacetime operations. The first of these were approved several months ago when three United States airlines received authority to operate North Atlantic routes.

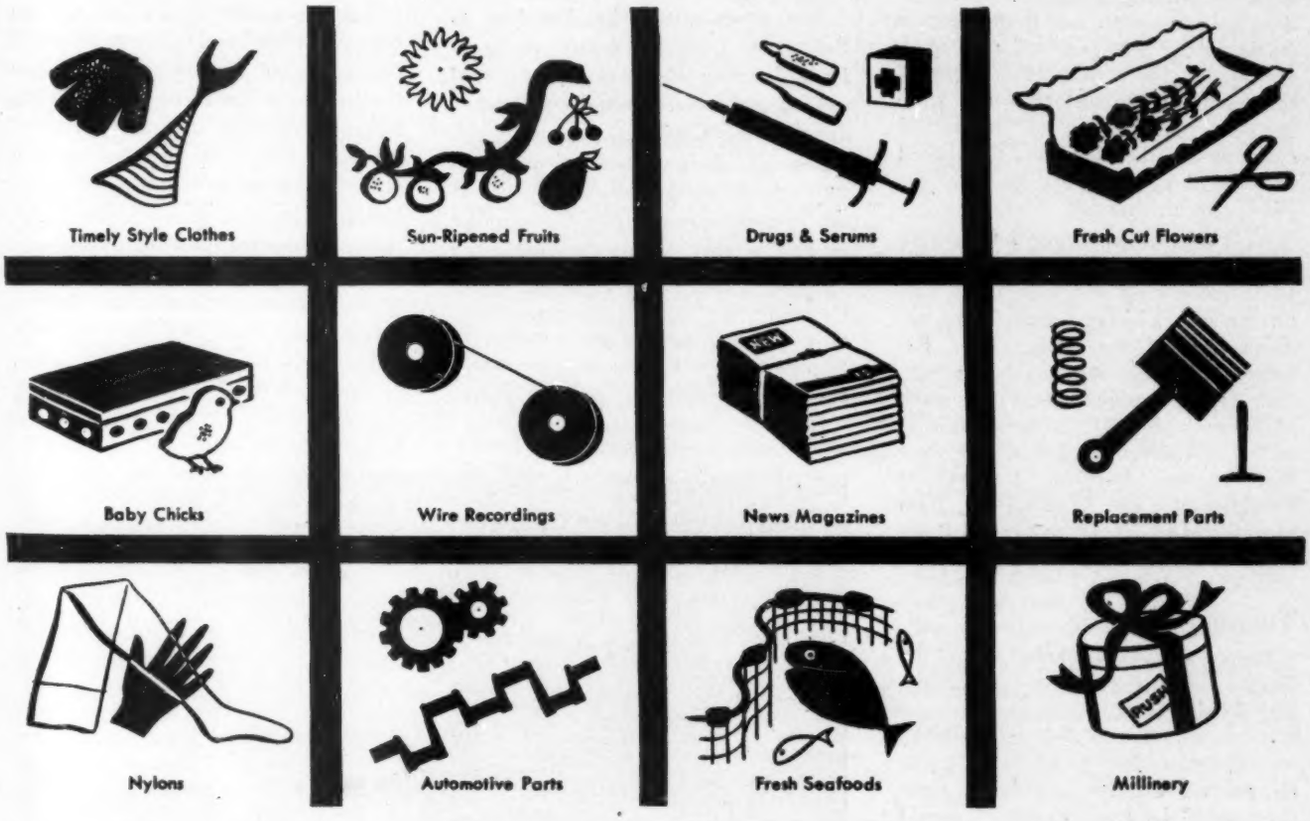
A glance at the international air transport timetables being set up or already in effect, as compared with surface travel and ocean voyage, reveals the comparative speeds by hours and minutes at which the exporter (or importer) and his cargo may go to market.

These are comparisons of international air and surface transportation schedules—present and future. In years ahead, giant skyliners and flying cargo boxcars are contemplated that will eclipse even the stratoplanes that today are on the aircraft manufacturers' assembly lines. The new and expanded world air routes will not only bring new markets to exporters and importers, but will be an important factor as well in cementing world peace.

Your product, too, can go by air!

Coast-to-Coast via United AIR FREIGHT SERVICE

United Air Lines' fast AIR FREIGHT SERVICE, combined with a new low tariff—with reductions as much as 50% from United's previous tariffs—is saving time and money for shippers and growers. You, too, can apply the speed and remarkably low cost of this inter-city and coast-to-coast service to your business. Here, for example, are just a few of the products that go by Cargoliner . . .



Pickup and delivery is provided in major cities across the direct Main Line Airway. Unusually low rates are offered on volume shipments. Inventories are kept low. In areas with crowded warehouse conditions, inconvenience and delay are eliminated. And if you are reconverting, needed parts or deliveries are expedited.

You can get going fast—when your products go by United AIR FREIGHT SERVICE.

UNITED AIR LINES

AIR FREIGHT SERVICE

(Also International Air Freight Carried)

United's Air Freight representatives will be pleased to consult with you on how Air Freight can be applied to your particular problems. For a copy of United's Simplified Air Freight Tariff, address Air Cargo Division, United Air Lines, 231 So. La Salle St., Chicago 4, Ill.

DEPARTMENT STORE BUILT ON AIR

FOR a retail establishment whose entire merchandising economy is built on air, the Salinas y Rocha department store, in Mexico City, has a solid, imposing look about it.

The elegant facade of this newly-built edifice rises 10 stories above the streets of Mexico's capital city. However, its striking outward appearance does not convey the fact that Salinas y Rocha is the only store of its kind in the world: More than 90 percent of the goods on its counters—the store serves a potential market of 400,000 customers—is brought from the United States and parts of the Mexican Republic by air freight!

As a department store in the North American tradition, Salinas y Rocha offers every kind of goods to its customers, with a heavy accent on the women's side of the buying line. Recently, when the store opened for its first day of business, its entire stock of women's dresses, its lingerie, cosmetics and other articles on sale were there because American Airlines' air freight service had flown directly from manufacturers as far away as 2,500 miles.

Turnover by Air

Behind the near-exclusive use of air freight there is sound merchandising. The life-blood of a department store is turnover. Yet, if Salinas y Rocha were forced to buy quantities of goods on normal delivery schedules, turnover would be less. Purchases would have to be made far in advance of normal marketing. For one thing, buyers would have to obtain large quantities to make up for the lack of flexibility in shipping. There would be no opportunity, for instance, to place test orders for goods and then for speedy delivery.

This is true because the great bulk of the store's suppliers are in the United States. Surface transportation is so much slower than air transportation that the store would be forced to maintain large and expensive inventories of goods. Thus, air freight makes it possible to order short lots for almost immediate delivery. The differential in shipping costs is more than made up in greater store volume.

Another feature of great interest to stores selling high-quality fashion goods is the timeliness of air freight. A few weeks ago, Salinas y Rocha displayed a complete new line of fashions, the Calexico Colorama. The entire line had been flown to Mexico City, and as a result Salinas y Rocha's windows displayed the complete collection of resort wear and accessories *long before* New York, San Francisco, and Chicago could offer them to shoppers.

The goods carried by American to Salinas y Rochas consists of every form of merchandise that can be placed aboard a plane. Sample shipments are underwear, hosiery, furs, millinery, shoes, all kinds of women's apparel, men's wear and cosmetics. The goods are shipped directly from the supplier to Mexico City, where they clear the Mexican customs at the airport. For the handling of women's dresses, American devised packaging called a "flightainer" which makes it unnecessary to repress the garment before displaying it. This again cuts down the time between supplier and storekeeper. From the shipper's angle, the new packaging saves money in boxing.

Some of the cosmetics are packaged in Mexico from materials that had been brought in via air freight. In each case, for each item of goods, the hours, or even minutes saved, are dollars in increased volume through turnover.

Business Background

Although the plan is revolutionary, the background of Salinas y Rocha is sound and conservative. The idea of merchandising by air freight was conceived by young Hugo Salinas, chief executive of the store. With Joel Rocha, who is the present counterpart of the other half of the store name, Salinas attended the Wharton School of Finance, where he studied the modern techniques of merchandising. He and Joel were sent to the States at the express wish of their parents, who had first organized a chain of stores, under the Salinas y Rocha name. The elder Salinas had been a manufacturer of household furniture. Together with the elder Rocha, he built a chain of retail outlets that now serves every important city in Mexico. But this latest effort was to be the responsibility of the younger generation, and they took a young way of tackling their problem.

The store itself is the most modern in design. It is the first such building

DESTINED FOR THE COUNTERS—Wearing sun glasses, Joel Rocha, Jr., witnesses unloading of an air freight shipment for Salinas y Rocha Department Stores flown into Mexico City by American Airlines. Beside him are Mrs. Rocha and Karl de Blinde, AA's cargo traffic manager in Mexico City.

Is Your Company's Name On This List?

These are some of the many users of American Airlines Airfreight

Swift, low-cost Airfreight, a boon to regular shippers, is being employed with profit as the basis for new marketing and merchandising. Airfreight sales engineers and research experts are ready to show you how Airfreight can work for *you*. Please write to Airfreight Division, American Airlines, 100 East 42 Street, New York 17, N. Y.

AIR CONDITIONING EQUIPMENT
Anemostat Corp. of America, Elmwood, Conn.

AIRCRAFT PARTS
United States Rubber Co., of New Jersey
Douglas Aircraft Corp., Santa Monica, Calif.
Fulton Sylphon Co., Knoxville, Tenn.

APPAREL—WOMEN'S
Nettie Rosenstein, Inc., New York
Helitzer Bros. & Co., New York
Saks & Company, Inc., New York
R. H. Macy & Co., Inc., New York
Wm. Filene's Sons Co., Boston
Bonwit Teller & Co., Philadelphia
Lit Brothers, Inc., Philadelphia
Woodward and Lothrop, Washington, D. C.
Cain-Sloan Co., Nashville, Tenn.
Harvey Co., Nashville, Tenn.
B. Lowenstein & Bros., Inc., Memphis, Tenn.
Pfeifer Bros., Inc., Little Rock, Ark.
Neiman-Marcus Co., Dallas, Texas
Titche-Goettinger Co., Dallas, Texas
Sanger Bros., Inc., Dallas, Texas
W. C. Stripling Co., Fort Worth, Texas
White House, El Paso, Texas
Bullock's, Inc., Los Angeles, Cal.
May Department Stores, Los Angeles, Cal.
Broadway Dept. Store, Inc., Los Angeles, Cal.
I. Magnin and Co., Inc., Los Angeles, Cal.
J. L. Hudson Co., Inc., Detroit, Mich.
William Taylor & Sons Co., Cleveland, Ohio
Higbee Company, Cleveland, Ohio
Marshall Field and Co., Chicago, Ill.
Mandel Bros., Chicago, Ill.
Stix, Baer and Fuller Co., St. Louis, Mo.
Famous and Barr Co., St. Louis, Mo.
H. & S. Pogue Co., Inc., Cincinnati, Ohio
John Shillito Company, Cincinnati, Ohio
Mabley and Carew Company, Cincinnati, Ohio
F. & R. Lazarus and Company, Columbus, Ohio
L. S. Ayers & Co., Inc., Indianapolis, Ind.
William H. Block Co., Indianapolis, Ind.
J. N. Adam and Co., Buffalo, N. Y.
Joske Brothers Company, San Antonio, Texas
M. O'Neill Company, Akron, Ohio
G. Fox and Co., Inc., Hartford, Conn.
T. Eaton and Co., Toronto, Ont.
Stewart Dry Goods Co., Louisville, Ky.
L. Bamberger & Co., Newark, N. J.
Lorch Manufacturing Co., Dallas, Texas
Achilles of Hollywood, Los Angeles, Cal.
Midwest Coat and Suit Co., Cincinnati, Ohio

BAKING MACHINERY
J. H. Day Company, Cincinnati, Ohio

BEVERAGES
Mohawk Liqueur Co., Detroit, Mich.

BOOKS
Encyclopaedia Britannica, Inc., Chicago, Ill.

CANDY
J. Franklin Myers Industries, Dallas, Texas
Frank G. Shattuck Co., Charleston, Mass.

CHEMICALS
B. F. Goodrich Chemical Co., Springfield, Mass.

COSMETICS
Coty, Inc., New York
Max Factor & Co., Hollywood
Chen Yu, Inc., Chicago
Dorothy Gray, Ltd., New York
Revlon Products Corp., New York
Germaine Monteil Cosmetiques Corp., New York
Elizabeth Arden, Inc., New York

DRUG PRODUCTS
Hyland Laboratories, Los Angeles, Calif.
Chap Stick Co., Lynchburg, Virginia
Park Davis & Co., Detroit, Mich.
Schenley Laboratories, Lawrenceburg, Ind.

ELECTRICAL MACHINERY
Frank Rieber, Inc., Los Angeles, Calif.
General Controls Co., Glendale, Calif.
Bodine Electric Co., Chicago, Ill.
Telegraph Apparatus Co., Chicago, Ill.
Micro Switch Co., Freeport, Ill.
Sigma Instruments, Inc., Boston, Mass.

FABRICS
Brighton Mills, Inc., Rome, Ga.
E. I. DuPont de Nemours & Co., Fairfield, Conn.
Elsa of Hollywood, Los Angeles, Calif.
Renoir Fabrics, New York

FILM
Consolidated Film Industries, Inc., Hollywood, Calif.
Pathe Industries, Inc., Hollywood, Calif.
Soundies Distributors Co., Chicago, Ill.

FLOWERS
California Flower Growers, Los Angeles, Cal.
Knoxville Wholesale Florists, Knoxville, Ky.
S. S. Pennock Co., Boston, Mass.
George Kesson Company, Cincinnati, Ohio
Cincinnati Cut Flower Exchange, Inc., Cincinnati, Ohio
Paul's Wholesale Florist, Washington, D. C.

FRUITS AND VEGETABLES
Ralph E. Myers Co., Salinas, Cal.
Jarson-Zerilli, Detroit, Michigan
The Great A & P Tea Co., Philadelphia, Pa.
B. H. Kroger Grocery and Baking Co., Cincinnati, Ohio
Fisher Brothers Co., Cleveland, Ohio
Pennsylvania Fruit Co., Philadelphia, Pa.
Economy Grocery Stores Corp., Boston, Mass.
Leigh Lawrence Co., Washington, D. C.
John Jacobs Farms, Phoenix, Ariz.
Edwin H. Anderson & Co., Chicago, Ill.

FURNITURE
Chelsea Fireproof Storage Warehouses, Inc., New York
Continental Furniture Co., High Point, N. C.

FURS—FABRICATED
Evans Fur Co., Chicago, Ill.

GLOVES
Markay Waist House, New York

HATS—MEN'S
Byer-Rolnick Co., Garland, Texas

HATS—WOMEN'S
Lily Dache, Inc., New York
Hattie Carnegie, Inc., New York
John-Frederics, Inc., New York
Cathay Hats Co., Los Angeles, Calif.

INSECTICIDES
McKesson & Robbins, Fairfield, Conn.

LATEX—LIQUID
Goodyear Rubber Co., Akron, Ohio

LEATHER GOODS
Warner Products Co., Hollywood, Calif.

LOBSTERS
Shattuck & Jones, Boston, Mass.

MAGAZINES
Newsweek, Dayton, Ohio

NEWSPAPERS
The Wall Street Journal, New York
Billboard Publishing Co., Cincinnati, Ohio

NOVELTIES & NOTIONS
Hawley Products Co., St. Charles, Ill.

OPTICAL GOODS
Poloroid Corp., Cambridge, Mass.

PHONOGRAPH RECORDS
Cosmopolitan Record, Inc., New York

PLASTICS
National Transparent Plastics Co., Akron, Ohio
Formica Insulation Co., Cincinnati, Ohio

POULTRY
Evelyn Ionni, Dallas, Texas
Indian Spring Farm, Fort Worth, Texas

PRINTED MATTER
Paramount Pictures, Inc., Hollywood, Calif.
Child Life, Inc., Cambridge, Mass.
Universal Pictures Co., Inc., Universal City, Cal.

RADIO PARTS
Australian War Supplies, Washington, D. C.
Plastic Wire & Cable Corp., Norwich, Conn.
Standard Coil Products Co., Chicago, Ill.
Philco Corporation, Philadelphia, Pa.

SHOES
I. Miller and Co., New York
L. V. Marks and Son, Cincinnati, Ohio
Style Shoe Co., Haverhill, Mass.
Fern Shoe Co., Los Angeles, Cal.

SILVER—FABRICATED
Cia de Export e Import Continente, Mexico

STOVES
Cribben & Sexton Co., Chicago

TOOLS—HAND
Aircraft Tools, Inc., Los Angeles, Calif.

TRANSCRIPTIONS
World Broadcasting System, Inc., Chicago, Ill.

AMERICAN AIRLINES *System*

THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS

FRESH FROM THE UNITED STATES—Air-freighted merchandise attractively displayed on the counters and racks of Salinas y Rocha. This is only one corner of the first floor of Mexico City's new, big 10-story department store. Nine-tenths of the store's merchandise is flown in from the United States.

to be completed since the war. Leading Mexican architects consulted and finally drew the plans for the huge edifice, with its ornate yet functional front, and the 10 floors and basement, each divided into two sections. The North American designer, Raymond Loewy was called in to coordinate and originate the decoration ideas for the interiors.

Still, the problem that most troubled Hugo Salinas was that of achieving a high enough turnover so that his store could offer its goods at moderate prices. Then, while aboard an airliner flying from Monterey, he came upon the idea of air freight.

"In one sense, it is against tradition," he said, half in jest, "You know, we Mexicans are not supposed to have such a high regard for speed. But speed was vitally important to the store as I saw it, and the airlines offered me that speed."

Both young Salinas and Rocha are serious-minded men who see their store as an omen of things to come in Mexico.

"The fact that we use the modern method of air freight is just one thing," Salinas commented, "Mexico, because of its terrain, has long been an air minded country. But the most important factor is the rise of the Mexican middle class—a new white-collar class—who will support an institution such as ours, buy its air freighted goods, and perhaps travel by air themselves.

"But as to our immediate plans: We wish to make the Paseo De La Reforma an extension of Fifth Avenue, not only in the quality of the merchandise displayed, but in the purchasing power of the people who shop there. Air transportation is helping us do it."

The ABC of Foreign Trade

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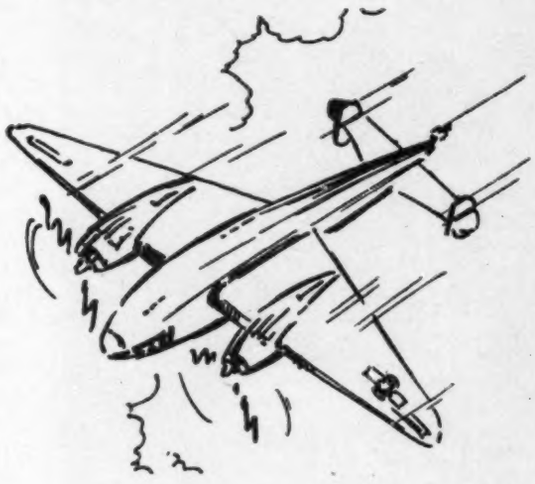
National
AVIATION SHOW
of 1946

GRAND CENTRAL PALACE, NEW YORK CITY



APRIL 5th thru 13th

"The Greatest Show in Aviation History"

Daily 11 am to 10:30 pm. ***Sunday 12 to 10:30 pm***

ADMISSION $1.25

Management: **United Expositions Corp., New York**

Here's TRANSAIR

THERE'S hustle and bustle in the Newark offices of Transair, Inc.—a new charter airline with a special slant on the aviation business. It's the passenger trade Transair is after, and the company is making long strides in that direction.

Transair has made no insignificant beginning. Look at its equipment: three four-engined *Skymasters*, five two-engined *Skytrains*, five *Electras*, and a C-67 converted into what was described to this writer as a "super-super-appointed luxury executive ship." The latter includes lounge, card tables, galley, the very latest in soundproofing, modern upholstery, and even multi-colored flooring. Add to this impressive list five anticipated Beech UC-45s, capable of carrying a half-dozen passengers and pilot each.

lap. Transair is also negotiating with Mexican authorities for the use of Mexico City's airport as a stopover point in its projected Newark-Mexico City-Los Angeles-Newark flights. Giant four-engined aircraft would be used on these trips.

Air cruises form a definite part of the Transair picture. Leisurely air trips—"loafing trips," Lawrence calls them—are in mind. Where? The answers are: anywhere, anytime.

At the same time, Transair is acutely aware of the part that the transport plane can and will play in industry. Company executives often are faced with the necessity of making long journeys on a moment's notice. Then, of course, there are routine business trips requiring the utmost speed, the transport of certain key personnel from

KEY MEN—Connor F. Lawrence, operations manager of Transair, Inc. (left), in visual accord with Hugh McL Fenwick, general manager.

one factory or office to another situated hundreds or even thousands of miles away, and many other necessities pointing to the airplane's usefulness.

It is Transair's plan to hire out its aircraft to companies contracting for their use. Transair would take care of the maintenance of each contracted plane, and assign a pilot to each company. In some cases, it might be more propitious to have two companies cooperate in the use of a single transport.

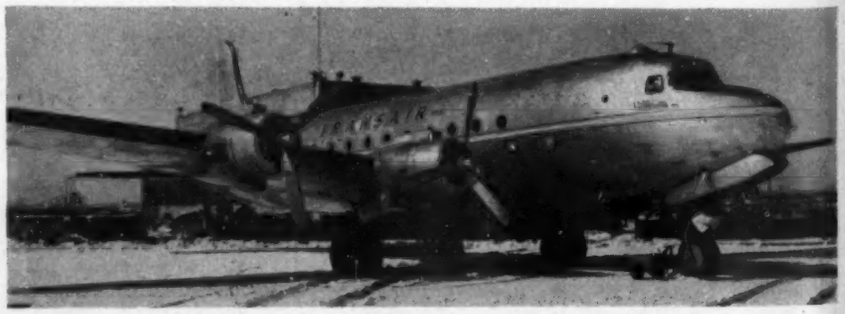
Heading the company is Colonel W. Deering Howe, who, during the war, served as special assistant to General Henry H. Arnold. He is a partner in the law firm of Sherman, Sterling and Wright, as well as a director of the Chemical Bank and Trust Company, Southern Pacific Railroad, Miami Corporation, and West Indies Sugar Company.

Hugh McL. Fenwick, who has been in the aviation business for two decades, is general manager of Transair. A former vice president of the Aviation Corporation and Consolidated Vultee, he became connected with Hughes Aircraft a little more than a year ago. He worked on the H-1 (*Hercules*)

MIAMI-BOUND—Passengers boarding a Transair plane headed South from Newark Airport. Within a few hours the Northern snow will be exchanged for Southern beachsands.

Operations Manager Connor F. Lawrence is quite certain that Transair, incorporated only two months ago under the laws of the States of New York and New Jersey, is the largest charter plane concern in the United States, and possibly the world.

At the present time the airline is operating charter flights between Newark and Miami and Nassau. Havana will come into the picture very shortly, with a connecting stop at Miami. A second plane will fly the Miami-Havana



TRANSAIR SKY LINER—One of the three four-engined Skymasters in the service of Transair, Inc., described as the largest charter airline in this country.

project as assistant to the vice president and general manager. Credit Fenwick with the original idea of Transair.

Connor Lawrence has flown practically all his life. A civilian pilot during the war, he was commissioned in July, 1942. He was operations officer of a series of squadrons in Wilmington, Del., and Bovingdon, England. Lawrence has flown as a transport pilot in the Air Transport Command and as a test pilot for the Eighth Air Force.

Topping the airline's pilots is Russell F. Gates, a flyer with 19 years' experience under his belt, who has been behind the controls both for the United States Army Air Force and the Royal Air Force. His stint for Britain was in 1941-42, after which he came to Washington to fly brass and legislators. Then there were 16 months with the ATC, during which time he flew the first P-38 from California to India.

Transair has its sights set high. Take, for example, the new world's record hung up by one of its *Skymasters* earlier this month. Piloted by Captain Peter Nagurney, the ship zipped from Dade County Airport, Miami, to Newark Airport, in four hours and 29 minutes.

Pogue to Resign His CAB Post Next Month

L. Welch Pogue, chairman of the Civil Aeronautics Board is expected to resign his office early next month. It is understood that he has given notice to President Harry S. Truman, and that the President will select Pogue's successor shortly.

A lawyer, Pogue may re-enter his former practice. There are rumors to the effect that he will be identified with one of the bigger airlines, but this is strictly in the rumor stage only.

Organization of Korean Airline is Announced

Korean National Airways, a private company operated under the Government supervision, has been established at Seoul, Korea. It is backed by Korean capital and by a flyer who owned the only airline in that country before the war.

The new airline, which is expected to be ready for business some time next month, will transport freight and passengers in American planes. American pilots are being used to train Korean co-pilots. Plans of KNA include operations into Tokyo, Manila, and Shanghai.

Aviators' Post Backing National Aviation Show In New York Next Month

New York's first National Aviation Show in nine years is scheduled to be held next month in the Grand Central Palace, with sponsorship by the Aviators' Post No. 743, American Legion. The show, which will take place from April 5 through April 13, has the blessing of the Army Air Force which is extending full cooperation.

Lieutenant Colonel LeRoy A. Mullen, commander of the post and a veteran of both World Wars, has announced that net proceeds will be turned over to the AAF Aid Society. It is the aim of the Aviators' Post to educate the general public to the "need for military air power and the necessity of keeping America in the forefront of the entire aviation industry, both military and civilian." G. A. Parsons is directing the nine-day affair.

Lt. Col. LeRoy A. Mullen

Many of the wonders viewed at the fair held at Wright Field last October have been made available for the New York exposition. On display will be robot bombs, captured German and Japanese planes, radio-directed aircraft, and the famous jet-propelled Lockheed P-80 *Shooting Star* which recently set a new speed record. There will also be demonstrations of radar, black light, television, and remote control guns. Nor are the new-type civilian planes left out of the picture; these will be on display.

"It is not a simple matter to describe the post and the reasons why it is always in the vanguard of the argument and battles for air power," Mullen told AIR TRANSPORTATION. "Water seeks its own level; so do men. Thus, after World War I, men from all over the United States and from foreign countries—men who had elected to meet our enemies in combat in the new element, the air—gravitated to a level, and that level became Aviators' Post 743.

"Here gathered the aces—Rickenbacker, Hartney, Burdick, Porter, Vaughan; and the great commanders, Generals Lohm, Humphries, Arnold, Mitchell, Street, George, Fachet, and many others. In their steps follow the great air men of this war—Gabreski, Godfrey, Gentile, Johnson, and numerous others. Our enemies will long remember and reflect before laying down the gauge of battle again. These are the reasons that prompt us to sponsor the National Aviation Show—and, incidentally, to raise a substantial contribution for the Aviators' Post Memorial."

The post is frankly proud of the fact that when World War II broke out, half of its 500 membership answered the call to the colors for the second time.

NEW JOB FOR HALSEY

WITH PAN AMERICAN—Admiral William F. Halsey, Jr., who wrote reams of flaming history as the fightingest man in the Pacific naval war, has been elected vice president in charge of Pan American Airways' transpacific services. He will be senior officer on the Pacific Coast, and will have direct charge of the system's services to Honolulu and Australasia, as well as the planned service to Japan and the Orient. He takes over his duties next month upon completion of his present Navy assignment.

Times Wins Hawks Trophy

The Frank M. Hawks Memorial Trophy has been awarded to *The New York Times* and Arthur Hays Sulzberger, publisher, in recognition of their contributions to the development of aviation. The award, six of an annual series, was decided on by a committee of distinguished flyers, past and present, who are members of Air Service Post 501, oldest aviation post in the American Legion. Announcement was made by Harry M. Bruno, of the post's executive committee.

New Philippine Airline

Manila and Shanghai will be linked by air when the Philippine-owned Far East Air Transport Company inaugurates its service shortly. Major Henry Wadsworth Longfellow Meider, of Pittsburgh, is general manager of the line. He stated that additional service to Singapore, Surabaya, and Port Darwin is contemplated.

Australia's Plan Upset

Australia plans to nationalize her airways were defeated when the High Court ruled that legislation already passed to put the plans into effect were invalid. A reciprocal aviation agreement with the United States and other Commonwealth Governments is very much on her mind.

Young with CAB

Clarence M. Young has been sworn in as a member of the Civil Aeronautics Board by Chairman L. Welch Pogue. He will serve the final year of the six-year appointment vacated by Dr. Edward P. Warner, who resigned to become president of PICAO.

PROPOSED TERMINAL—Westair Helicopter Terminal, 9th Avenue and 33rd Street, New York City, as suggested by John F. Budd, chairman, Aviation Section, New York Board of Trade.

Helicopters in the Air

FEET ON THE GROUND

By J. BURLEIGH CHENEY

President, Skyway Corporation

I THINK it well to discuss, first, the kind of service that an operating helicopter transportation company should render to satisfy public convenience and necessity: second, the type of equipment presently available, and which will become available in the near future, should be evaluated with regard to its utility.

In my work over the last two or three years with Skyway Corporation in New England, I discovered several very definite fundamental needs which are necessary to serve in order to satisfy the public convenience and necessity.

I made a personal town-to-town survey of the entire Southern 22,000 square miles of New England where we have a population of more than seven million people. It was re-discovered that all conventional forms of transportation in New England are arranged up-and-down on the map, or run North and South, principally in the river valleys. There is no rapid transportation in a cross-country, East and West, direction.

Therefore, in discussions with Chambers of Commerce and with civic and business organizations of every type in some 89 cities and towns, I found that it was absolutely imperative that some means of rapid transit be supplied across country, from town to town, and city to city. Especially important is a kind of service that could go from a city to its airport, which is almost every case is located from three to 10 miles out of town when it is served by main trunkline or feederline fixed-wing aircraft.

Knowing that there was a need for serving the population of these small cities and towns where there could not be an airport because there was no assurance that a large enough traffic potential existed to warrant sufficient frequency of schedule for conventional aircraft services, or to warrant the cost of a suitable airport and facilities, it was decided to investigate for a solution to this problem. Another problem which has become very serious is surface congestion. Transportation by bus or automobile, from town to town, or city to airport, is presently badly congested or inconvenient, and is, indeed, becoming worse instead of better. Moreover, there is a decided trend of shifting population, from cities to suburban areas; and as this movement increases in volume, surface congestion increases, and proportionately, the need for air taxi-shuttle service becomes more acute. This, in itself, is a very potent factor in determining the kind of service and equipment that must be supplied to serve public convenience and necessity adequately.

The direct-lift aircraft was found to be the only type of machine that could bring a passenger from the center of a city or town to the airport to meet the arrival and the departure of the scheduled trunkline and feederline air transportation services. Likewise, the heliocopter is the only type of aircraft that can take him on a short hop from the center of one town and deposit him in a few minutes in the next town.

How can the helicopter be used commercially? Mr. Cheney has studied the subject thoroughly, and he has come up with an answer. But he also issues a warning: Be careful! Keep helicopter operations where they belong!

The next question to be decided before taking up the subject of equipment, is the length of haul. All the distances are to be short, so we worked out a series of some 150-odd time tables, interlocking some 80 cities and towns in Southern New England. It was found that the average distance between these towns was only 11 miles. In this whole area of several hundred miles of routes, we had only one long hop, and that figured out to be 24 miles between Providence, across Narragansett Bay, to Newport, Rhode Island. Many of the hops were only two to eight miles. Thus, it is actually only an air taxi-shuttle service that can fill the bill. There must be sufficient frequency of schedule so that commercial travelers, business executives, traveling auditors, inspectors, and others, can go from plant to plant, or town to town, in one or two short hops with a tremendous saving of time, actually estimated at something over 60 per cent.

Local Transport

Another plan has been developed in this kind of service that would utilize the limited operating characteristics of the helicopter, and that is to retract the distances to those mentioned in the preceding paragraph. It was never planned to fly this kind of service from airport to airport, as the present type helicopter-taxi-shuttle should not be allowed to travel between those two points in competition with the more efficient fixed-wing, feederline or trunkline service. In my opinion, the first service of the helicopter is as a *local* transport, to feed traffic to the established services better able to give the traveling public the economical, long-distance transportation it wants.

There is an exception to what I have just said in regard to flying the helicopter from airport to airport. In the case of metropolitan New York City, for example, a taxi shuttle-service by helicopter is most desirable in transferring travelers from LaGuardia Field to Idlewild, or from Newark to Teterboro Airports.

I have given some of the background of my work in New England which, as an area, appears to us to be the best proving ground or field laboratory in which to discover the best and most efficient way to operate this air taxi service. Our purpose is to learn how to operate the helicopter commercially, and at the same time develop rules and regulations for the operation of a type of equipment and type of service that is absolutely brand new.

At this moment, to the best of my knowledge, there is no one who knows anything about the operation of a helicopter for commercial use. Therefore, I say, that some group of men, thor-

J. Burleigh Cheney

oughly imbued with an interested approaching excitement, and a deep-seated sense of pioneering, who will surround themselves with the best brains, engineering skill and training —with men who now are available, having been trained during World War II —will build up an organization with a tremendous usable ability and skill in all types of air transportation to inaugurate this service. Certainly there are a number of groups in this country thinking along just this line. It will not be long before we will see some such group of men initiating this new helicopter air taxi-shuttle operation in the United States.

And now for the type of equipment available for starting the service.

Back in the Fall of 1943, after I had made the survey of Southern New England, I called at the offices of some 31 persons or companies claiming to have built, were building, or planning to build, some type of helicopter. It may amaze you to know that out of the 31, there was just one helicopter flying, and that was the Sikorsky VS-300 which now hangs in the Edison Museum at Dearborn, Michigan. As the first helicopter to fly successfully for reasonable periods of time, it proved that, at last, after centuries of effort, the direct-lift aircraft was here to stay. In the Spring of 1944, there were two or three more types of helicopters flying; and now, to the best of my knowledge, there are nine different practical ships actually flying. There are many single-place models or prototypes test flying which may some day grow into helicopters.

In addition to that type, there are several very satisfactory operating two-place ships. Other ships flying will carry three passengers and a pilot. The development has even gone so far that a ship capable of carrying 12 people has been successful test-flown.* I personally know of other ships, now under construction, that will carry more than 12.

Job to be Done

The important thing to stress at this moment is the fact that even though advances in engineering on the helicopter have been tremendous in the last year, there is an even more tremendous job ahead in engineering the ship for the future.

I think it is generally admitted that the construction of ships available today is such as to permit safe operation to reasonable altitudes and in perfect safety. I think it is fair to say that the present-day helicopter may land with perfect safety and ease in the various parking lots in our cities, provided there is a reasonable freedom of clearance in air approach from two sides.

Inasmuch as present helicopters are powered with only one engine, and despite the fact that the failure of the engine is no longer a serious danger, the helicopter should not be flown in and over approaches which are near high buildings or channels between building, or where there is danger of up-drafts, down-drafts, or side gusts.

In our larger cities, landing spots are going to be hard to find for a while because of conditions I have just mentioned; but I do think that engineering on current ships has progressed to the point to permit landing on a platform or an elevated area such as was suggested by John F. Budd, chairman of the Aviation Section of the New York Board of Trade. This is known as Westair Helicopter Terminal. In New York City the space west of the

The Author

J. BURLEIGH CHENEY, president of Skyway Corporation, Providence, Rhode Island, has long been identified with aviation. He was organizer and until last November chairman of the Aviation Committee of the New England Council. Cheney was also a member of the Council's Board of Directors for Rhode Island.

He has been member and officer of many Chambers of Commerce, Rhode Island Development Conference, trade and industrial associations; past president of the Providence Engineering Society; executive vice chairman of the Aviation Committee of the Rhode Island State Planning Board; chairman of the Advisory Council of the Aviation Section of the Rhode Island Department of Utilities; trustee of the Eastern States Exposition at Springfield, Massachusetts; and a member of the dedication committee of the Providence Hillsgrove Airport. A graduate of Phillips Exeter Academy and the Massachusetts Institute of Technology, Cheney has had many years of executive experience in manufacturing.

* This is the PV-3, manufactured by the P-V Engineering Forum.

Pennsylvania Station and the General Post Office, between 32nd and 34th Streets, down to the Hudson River, would be readily accessible at low altitudes and would permit service for the public's convenience. A cargo helicopter which is now actually available could be of tremendous value in flying the mail from Newark or LaGuardia Field to the post office at this point.*

I think the engineering on a larger ship, which will be powered by two engines, will create a machine which will give good service, and which will be able to land with perfect safety at any time, even with one engine out of commission, on the top of buildings in and around Philadelphia, Boston, New York, Chicago and other cities.

The subject of this article brings me to this point: I think more particularly of New York at the moment than any other of the big cities, because buildings are higher, much closer together, and create an air condition that is not within my subject to discuss. I do think, however, that aeronautical engineers should concentrate on the plotting and evaluations under varying conditions of the air currents in such a locality. Only in parts of cities, like Detroit, would the New York condition exist. By and large, it would be a very easy matter to fly the present-day helicopter, as well as the future helicopter, into Detroit, Boston, and other cities.

Much has been written about the helicopter and its uses that are starry-eyed in the extreme. The pictures and the writings have taken public imagination by storm, and too many people expect too much too soon. I would stress what I said earlier in this article: that the further development of the helicopter and its uses must be in the hands of energetic, pioneering minds who gather around them an organization of sound-thinking engineers and air transport operators with a wealth of experience in every form of the aeronautical profession. I suggest that we keep our feet on the ground, and get our helicopters into the air.

It is just as important to bear this in mind: the helicopter should be made to serve in the field for which it was designed, and it must not be allowed to get into attempted operations where it does not belong. Its use should not be attempted for trunkline service where long distance, high speed, more efficient fixed-wing aircraft would serve better.

* When plans for Westair Helicopter Terminal were presented last Fall at the Engineers Club in New York, Mr. Budd pointed out that helicopters shuttling between the terminal and the surrounding airports would operate only along water routes. Transporting passengers or cargo to the terminal would mean landing over a covered Hudson River pier and taxiing up to elevators designed to bring the helicopter below deck for unloading.

SIKORSKY COMMERCIAL MODEL—The S-51, four-place commercial version of the famous R-5 helicopter which broke several world's records two months ago. Deliveries will begin in the early Summer.

Sikorsky S-51 Helicopter to Be on Sale by Summer

The first helicopter to be offered anywhere in the world for commercial use—the four-place S-51, commercial model of the military Sikorsky rotor wing aircraft—is undergoing the final phases of testing preparatory to public demonstration and sale.

Bernard L. Whelan, general manager of Sikorsky, said deliveries of the S-51 would begin early this Summer. Widespread interest in the helicopter, beyond its military uses as an adjunct of ground and air forces, has been evinced by airlines, contractors for airport to post office and town-to-town mail deliveries, oil companies, pipeline survey organizations, crop dusting projects, power companies, bus and taxi services, railroad and steamship lines, as well as many Government departments who consider its special flying characteristics could be readily utilized in their particular fields.

The S-51 follows the basic design and construction of the Sikorsky R-5, largest and most powerful of the three Sikorsky production models built in quantity during the war. More than 36,000 hours of flying time was amassed by the Sikorsky military versions, which saw action in China, Burma, the South Pacific, and was used extensively in sub-Arctic bases.

The extremely roomy cabin of the streamlined S-51 is luxuriously appointed. The passenger seat comfortably accommodates three passengers. There is ample leg room. Unobstructed vision at both sides and in front is provided by the use of plexiglas of high optical quality.

Equipment for pipeline and similar maintenance, shuttle service, crop dusting, fire fighting, insect control, and other special uses for the craft can be incorporated. To carry its useful load of 1,250 pounds, the S-51 employs a 3-bladed main rotor of 48 feet disc diameter. Length overall with blades extended is 57 feet and height is 12 feet. Sea level speed is 103 miles an hour, with a cruising speed of better than 80 miles an hour. A cruising range of approximately 240 miles is provided by 100 gallons of gasoline, not counting ample reserve fuel facilities.

The S-51 has a service ceiling of 13,000 feet, hovering ceiling of 3,500 feet and will climb at the rate of 1,200 feet a minute at sea level. In pointing out these figures, Mr. Whelan observed that about four years ago the United States record for helicopter altitude was 75 feet and the longest flight was about a mile, set by an early Sikorsky model. Last January a standard production Sikorsky R-5 set an international altitude record of 21,000 feet and averaged 114.6 miles an hour to set a new international speed record.

Britons Plead for Air Service for Average Man

Two well-known British businessmen, Viscount Knollys, chairman of BOAC, and Albert H. E. Hinchcliff, president of the Manchester Chamber of Commerce, have entered their pleas for the development of Britain's air service for the average man.

Viscount Knollys declared that Britain must provide air service suitable to the people who ride day coaches on long journeys, and who, in his opinion, are ready to accept non-luxury service and accommodations. He also entered his recommendation for half-hour schedules between London and Paris. This, he said, would have the effect of accustoming the people to driving to the airport and being able to board Paris-bound planes without having to make reservations in advance.

PAA Doubles Its Bermuda Flights

Preparatory to instituting daily air service to Bermuda, as permitted under the terms of the Bermuda Aviation Conference, Pan American World Airways is immediately doubling its service to Bermuda from the twice-a-week flights previously offered.

Under the new schedule, departures will be at 10 a.m. from New York with the return flights the same day leaving Bermuda at 3 p.m. (New York time). Fare remains at the same level for the present: $126, plus 15 percent Federal transportation tax. The *Clippers* carry 43 passengers, a steward, and stewardess on each plane.

LOOK WHAT'S FLYING

There was a time when only the birds flew . . . then men sprouted wings . . . But NOW!

machine parts, drugs, printed matter, style goods, store merchandise, perishable goods, art works, cut flowers, samples . . . flying to and from all parts of the country at three miles a minute.

BLUEPRINTS IN THE BLUE

From Nashville, Tenn., comes the story of blueprints and specifications for the 52 million dollar dam over the Cumberland River in Kentucky being air expressed to over a hundred firms that were to bid on the construction. Flown for time-saving and to insure an almost simultaneous receipt by bidders throughout the country, speedy air express helped to hasten completion of the dam.

ball bearings, rare rose oil, monkeys, hats, radios, birthday cakes, a baby grand piano . . .

WHEN TIME IS MONEY

With parts worn out through incessant production during the war, a large copper, lead and zinc mine in Botwood, Newfoundland, *recently faced shutting down of its plant* unless replacements were immediately delivered.

The Westinghouse Electric Company at Cleveland, Ohio, lacked the urgently needed seven-foot porcelain insulators, but was prepared to manufacture them at once in this emergency.

Handled by the Air Express Division of Railway Express Agency, the replacements were sped from Cleveland to LaGuardia Field, New York, from where they were flown to Newfoundland. *Including the time spent in manufacturing, the mine lost less than two weeks of production* due to the speed and dispatch of air delivery.

newspapers, penicillin, live chinchillas, orchids, leeches, Sun Valley snowballs, a 2800 year old mummy . . .

DRESSES GOING UP

Indications that style goods are taking to the air in greater quantities continue with two recent shipments: Calexico Colorama dresses packed in Vita-film cellophane bags and hung on special racks to prevent wrinkling shipped by air express from Los Angeles to San Francisco; a 1500 pound shipment of dresses, lingerie and fashion accessories air expressed by Lane Bryant stockrooms in New York to their Springfield, Mass., store as a last-minute replacement order.

false teeth, a 6500 pound loading machine, South American toads, mother's milk, parking meter equipment, a gizzardless hen, tobacco samples, worms, cancelled checks, washing machines . . .

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When speed can solve a crisis, meet a deadline, fill a rush order, save an emergency, when lives, property and production hang upon shorter transit time, then you're talking *Air Express*—you're talking *"the fastest way."*

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549	1.07	1.42	3.84	6.14	15.35
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AIRDOM

By Richard Malkin

(Trade Mark)

HOW TO GIRDLE THE GLOBE

ERNEST BRIER interests us because we believe there will be many thousands such as he within the near future. He thinks in terms of time, with distance only a minor detail. As a vice president of Parke, Davis and Company, a pharmaceutical concern with branches flung throughout the world, Brier has for many years been in charge of the company's foreign affairs.

"Foreign affairs" is a magic term. It spells travel. But to one who has learned the valuable utility of speed, a modifier springs into instant being and the spelling becomes *air travel*.

To begin with, Brier is no tyro traveler. Tens of thousands of miles have slipped under him—on train, steamer, canoe, horseback, muleback, camelback, and even on foot. Seems strange, but that's what a vice president does for a living.

But now Brier has invaded the upper element with the attitude of the schedule-keeping letter carrier who said: "I gotta go to a lot of places in a hurry, mister." That's why Ernest Brier became the first man to make the first 'round-the-world business trip entirely by air since the Jap surrendered his Samurai sword aboard a United States battleship and gurgled: "Solly, please." We have no definite record on hand, but it is possible that no one made such a trip before the war.

It was last October that the executive started his journey by picking up a priority in Washington and hopping a TWA plane to Newfoundland. Pan Am took over from there, and within a comparatively few hours set him down in the emerald land of Killarney and the Blarney Stone. But before even a leprechaun could wink his impish eye and say, "The top o' the marnin' t' ye," or whatever it is he might say, Brier was carried off to London.

This wasn't Brier's first visit to London. He had flown there a few months previously, an Army plane taking him there less than a week after the last of the Nazi rocket bombs fell on the city. Now the traveler spent more than two weeks in the London office of Parke-Davis, and when his mission was completed he turned toward the next logical place—Paris. An ATC transport did the job.

His business in France's capital city at an end, Bried boarded a C-54 cargoplane bound for Rome.

"Circling over the Eternal City early in the morning," he said, "a magnificent spectacle was unfolded. The green of the hills, the ribbon-like streets, and close-ups of the various churches and buildings were all impressive sights, long to be remembered."

After Rome, it was Athens; and from the ancient Greek city there was a hop to Payne Field, the American airport near Cairo. More business talks in this old-time crossroads of the world, hob-nobbing with the Parke-Davis resident salesman and the company's distributor in that city.

The sun was sinking fast when Brier caught another Army plane and winged over the Suez Canal, which looked "like the Big Ditch it is so often termed." Evening came, and the lights of Tel Aviv, Bethlehem, and Jerusalem moved into sight. Destination, however, was Abadan, the United States Army base at the head of the Persian Gulf, where lend-lease shipments were landed prior to transshipment to Russia.

Abadan was left late that very evening, and the following morning Brier landed in Karachi, India. No grass growing under his feet, the world traveler contacted the city's company representatives and distributors before a Bombay-bound shuttle plane took off the same evening. Parke-Davis' Bombay headquarters are an important key in the company's foreign trade picture.

"From Bombay," Brier said, "came a hop to Colombo, Ceylon, the trip being made through the courtesy of the RAF—in a C-54, evidently lend-leased. After a day of business in Colombo, again via RAF, the journey continued to the Cocos (Keeling) Islands in the Indian Ocean. It was at this place, in World War I, that the German boat, *Emden*, was sunk, and the natives of the Islands are still selling souvenirs made from the wreckage of the ship."

The Cocos were left at 7 p.m., with arrival at Perth, Australia, early the next morning. There was a full day's business in Perth, following which the executive grabbed a plane for a 12-hour flight to Sydney, clear across the southern face of the continent—a distance of 2,400 miles.

Ernest Brier

He spent three weeks in Sydney where Park-Davis maintains offices and laboratories. Brisbane, the capital of Queensland, was next on Brier's list, which he reached by local plane. The Parke-Davis man didn't expect to spend his Christmas holiday there; but as it turned out, the United States Army had first call on the Brisbane air base, and his departure was delayed for 10 days. But that was hardly a worry to Brier; the time was spent to advantage in contacts with local agents.

Two days after New Year's Day, a *Skymaster* manned by an American crew, brought him from the Australian city to Noumea, New Caledonia. There was only an hour's stay, and the plane took to the air once more for Suja in the Fiji Islands. Dinner in Suja, and then continuing flights to Canton Island, Johnson Island, and Honolulu.

Followed 36 hours of relaxation at Hickham Field. Brier was alerted on January 5. The final leg of the trip to the United States was on tap. The plane swung into the air, dipped a wing in farewell to Honolulu, and headed straight for San Francisco. It was evening when the aircraft departed from Hickham Field; arrival at Hamilton Field in Frisco was the next morning. TWA bobbed up again, this time bringing the traveler home to Detroit.

Ernest Brier spent nearly three months in making his business circuit of the globe; but the point to remember is that actual flying time was 170 hours, equivalent to only a week's transportation.

THREE LUCKY GIRLS

THIS is a little tale of three American Airlines stewardesses —two very lucky ones, and one very, very lucky one.

Came Saturday evening, March 9, and the trio—Celeste Poole, of Roanoke, Virginia; Susan Brodie, of Aiken, South Carolina; and Betsy Strouse, of New Kensington, Pennsylvania—trooped to the Mutual Broadcasting System's quiz show in New York, "Break the Bank." Their pre-arrangement was that should one of them be selected from the audience as a contestant, all three would share equally in her winnings—if she were that fortunate.

But Bert Parks, who emcees the show, has an eye for beauty. His roving optics caught the three stewardesses and he invited them up to the stage where they joined the line of contestants. Presently Parks beckoned Celeste and Susan. Betsy stayed behind, accepting the consoling alternative of crossing her fingers. Nine questions were flung at Celeste and Susan, and their answers were glib and true. The tenth was the big money one.

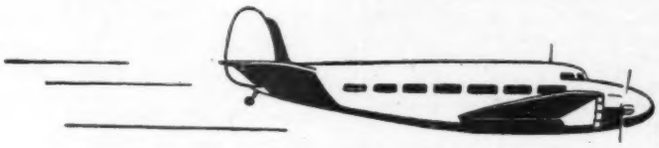
"What fictional character," queried Parks, "was flown to a valley of diamonds by strapping himself to one of the legs of a huge bird?"

Airline stewardesses are smart gals, and Susan clinched that by answering: "Sinbad the Sailor!"

The girls broke the bank—and how! Celeste and Susan collected $2,970 which represented the second largest amount of money ever won on a radio quiz show. Betsy's lucky, too!

THEY BROKE THE BANK—Mutual's quizmaster, Bert Parks, grins as he recalls the answer which brought $2,970 to the three American Airlines stewardesses. Left to right are Betsy Strouse, who crossed her fingers; Celeste Pool; Parks; and Susan Brodie, who knew all about Sinbad.

USE "EXPRESO"



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HANGAR FLYING

LOCKHEED

PILOT-BOOSTER

Few people know that at one curious stage in the development of the *Constellation*, the plane's hydraulic booster system worked *too* well.

The plane was designed so that the boosters, instead of the pilot, would do most of the work moving the control surfaces. For every pound of push the pilot puts on the rudder pedals, for instance, the booster now exerts 23 pounds of pressure to move the rudder. Saves the pilot a lot of wrestling. And assures really full control of big, modern four-engine airliners.

Well anyway, early in the game Lockheed perfected the booster system to such a point that you could practically fly the *Constellation* with your little finger. This reaction, of course, was too sensitive for general use... but the point is that the all-important "feel" of the ship has been tailor-made to the exacting wishes of experienced pilots, who swear by it.

Now, to passengers and pilots, the *Constellation* acts like the thoroughbred she is. Her foolproof booster system (the only one with a C. A. A. approved type certificate) makes the 45-ton, four-engine plane handle as lightly as a twin motor job.

Like everything else on this ship, the boosters were developed by imaginative, painstaking engineering... the kind that keeps Lockheed leading the field.

L to L for L

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ORIGINAL—CONSIGNEE'S AIRBILL—NON-NEGOTIABLE—TENDER TO CONSIGNEE ON DELIVERY.

1

Received by UNITED AIR LINES, INC. The goods herein described are accepted for transportation in apparent good order (except as noted) and are subject to the terms, rules, and provisions of carrier's tariff in effect as of the date hereof. Said tariff rules, terms and provisions, copies of which are available for inspection by the parties to the contract, are hereby incorporated into and made part of this contract.

Consignee (Print) | Declared Value $ | CHARGES (CHECK ONE) | C. O. D. SERVICE

Consignee's Street Address | Dimensions * | ☐ COLLECT CONSIGNEE WILL PAY | ☐ CONSIGNOR'S C. O. D. (Check only if invoice value collectable on delivery) SHOW AMOUNT BELOW

Final Destination | City | Zone | State | ☐ PREPAID CONSIGNOR WILL PAY

Destination Airport * | Number of Pieces | Dimensional Weight * | SERVICE REQUESTED (CHECK ONE)

Date | Consignor's Number Not acceptable without Consignor's number. | Gross Weight of This Piece* / Entire Shpt. | Consignee's Order No. | ☐ COMPLETE PICK-UP AND DELIVERY ☐ DELIVERY ONLY ☐ PICKUP ONLY ☐ AIRPORT TO AIRPORT ONLY

Time * M | NY— | IMPORTANT: Please Print or Write Clearly. This Airbill Will Be Photographed. *Consignor leave blank (carrier will complete)

Package and Commodity Description—Remarks	Rate*	Charges*

CONSIGNOR'S AFFIRMATION

I hereby declare that the contents and the actual value of this shipment have been truthfully and correctly declared and described and that such contents contain nothing dangerous to the aircraft, its passengers, crew or cargo. I acknowledge that this shipment is subject to the terms and conditions of tariff in effect on the date hereof, and that carrier will not pay over $50 in case of loss or 50 cents per pound, gross weight, for any shipment in excess of 100 pounds unless a greater value is declared and charges for such greater value paid.

Consignor

Permanent Post Office (or Street) Address of Consignor

City | Zone | State

Signed by

RECEIVED $.....

To apply in prepayment of the charges on the property described hereon.

By | Agent

RECEIVED	DELIVERED
At	At
Date	Date
By	By

Excess Value Transportation Charge*		
Pickup Charge*		
Delivery Charge*		
Sub-Total *		
Transportation Tax*		
Consignor's C.O.D.		
Consignor's C.O.D. Charge*		
TOTAL CHARGES*	$	

UAC764 CG28059R Printed in U. S. A.

United Air Lines Develops A Simplified Airbill

United Air Lines has issued a new airbill, designed to replace the customary bill of lading, and simplifying the handling of air freight shipments over its transcontinental route. By use of this airbill, a shipment is ready to be placed on the plane practically as soon as it arrives at the airport. Clerical work is reduced to a minimum.

Here are more advantages: (1) elimination of preparation of the customary freight bill at origin before departure; (2) transcription errors forestalled because shipments move on shippers' own instructions; (3) consignor may assign his own number as the airbill number, enabling him to advise immediately the consignee of the forwarding reference; (4) consignors' accounting procedures facilitated; (5) elimination of necessity for a formal freight bill on all cash collections; (6) the airbill form is a complete unit through the use of one-time carbon snapouts.

The four-part airbill, prepared by the shipper, includes the original which is affixed to the shipment for the consignee. The second copy is sent by pilot pouch on the same flight to the destination airport where it is available for preparing the shipment for delivery and serves as a delivery receipt. The third copy is kept at the point of origin, stamped with the flight number, and at the end of the day is sent to United's revenue accounting department as part of the complete report of the day's business at that station. Retained by the shipper, the fourth copy is evidence of the contract of carriage and is his permanent record.

One feature of the new airbill—that of letting the consignor furnish his own freight bill number— is a radical departure from established procedure. UAL officials point out that the shipper's name, date, and freight bill number have always been necessary in identifying any shipment. Since the freight bill number is inseperable from the other two factors, they say there is nothing to prevent the consignee from using any number he chooses, such as the invoice number, the salesman's number, or the consignee's own order number.

Can carrier planes operate effectively in Arctic regions? The **United States Navy** means to find out, and the new 45,000-ton aircraft carrier, *Missouri*, will head north for operations in extremely cold areas.

The final master plans for **Westchester County Airport**, New York, have been discussed at a conference of officials representing the county, CAA, United States Weather Bureau, and the North American Airport Corporation.

The Port of New York Authority is supporting **TACA's** application to the CAB for direct air service between Bogota, Colombia, and New York. The bistate agency also urged the board to include in such a route intermediate stops at Nassau and Kingston.

Alas! An error has been detected by one of this magazine's readers in Lima, Peru. The *faux pas* occurred when **Panagra** was inadvertently omitted in the mention of airlines cooperating in the air cruises sponsored by **American Express Company.** "As a matter of fact," writes Gerald G. Hogan, "the natives of the interior, who have no word for airplane, call anything that flies a panagra."

An additional round trip daily will be started daily by **Eastern Air Lines** between Boston and Atlanta, via Newark-New York, Philadelphia, and Washington, D. C. A seventh round trip daily will be inaugurated between Chicago and Miami, and a fourth round trip daily is to be added between Detroit and Miami.

Charter passenger flights between Havana and Miami were inaugurated on March 5 by **Expreso Aereo Interamericano.** A Lockheed *Lodestar*, with all passenger facilities, including stewardess, has been assigned to the charter run.

A ticket exchange agreement with **Tata Air Lines** has been signed by **PAA** which will provide connecting service through India for Pan American passengers. Tata is currently operating more than 3,000 miles of routes in India.

Matson Lines has signed a contract with the Netherlands Purchasing Commission for conversion and overhaul of four-engined aircraft at Matson's Aircraft Conversion and Modification Center at Oakland Municipal Airport.

AIR CARGO SERVICE . . . AND YOU

Here, at Air Cargo Transport, we're convinced that *experience in the air* is vital. That's why we've staffed our organization with men who've *proven* their CARGO-flying ability . . . men who are more than adequately equipped to fly *your* cargo *anywhere.*

Typical of these superbly-trained, experienced people is our Superintendent of Operations. An ex-Lt. Colonel with the Army's ATC, he did an extended tour of duty at Karachi, India, with some 1300 planes directly under his wing. (This, after spending 14 years in maintenance and operations with two major American airlines.) Today, this man supervises our entire fleet of Sky-Vans.

Interesting, and important, too, is the fact that most ACT pilots have seen service either as Army and Navy transport or bomber pilots in all the major war theatres . . . from "Flying the Hump," to the Balkan "Milk Runs." *In addition, all these pilots have airline ratings.*

Modern airmindedness typifies the thinking of the entire ACT organization. Our personnel manager made a brilliant record as a B-24 pilot and an administrator. Our check pilot, a former airline man, distinguished himself during the war as a test pilot. ACT maintenance men held similar jobs with the Army or Navy. And so it is with the entire ACT organization—men working at peace in the same jobs they did so well during the war.

These are the competent, fully *experienced* men who've proven their ability flying and servicing military cargo . . . men who've been chosen by ACT for their training, ability, and spirit.

These are the men whose priceless experience and know-how are at *your* disposal when you ship your cargo by air . . . via ACT.

H. Roy Kemp

PRESIDENT

WHEN TIME COUNTS . . . ACT

ACT

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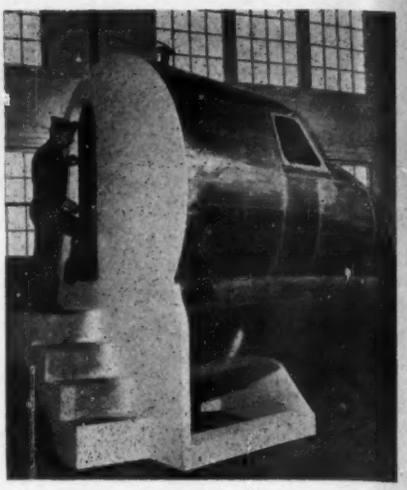
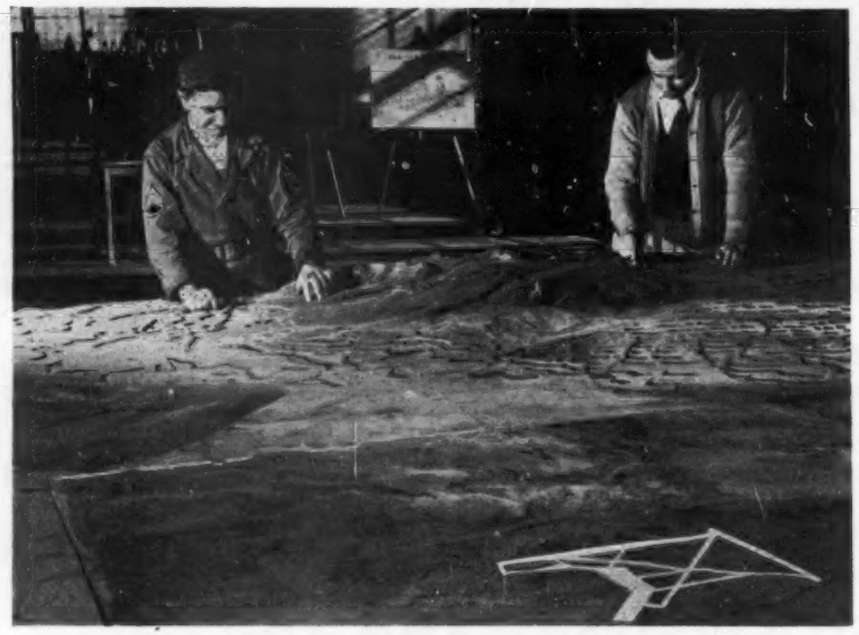
ACCORDING to Colonel Ben S. Kelsey, chief of the All-Weather Flying Division at Air Technical Service Command headquarters, Wright Field, Dayton, Ohio, "weather conditions, good or bad by standards of human comfort, simply constitute another physical factor in aircraft operation along with distance, altitude, and time."

Scientific research and engineering developments furnished the know-how to combat the conditions relating to the distance to be flown, the altitude to be reached, and speed to be achieved. Equal effort has been put into the battle against weather conditions, with the result that flight operations on an experimental basis now are carried out regardless of the vagaries of weather.

This battle against weather, as waged by ATSC engineers and experts of the All-Weather Flying Division, owes its success in large measure to the laboratory scientists and technicians both in the service and in private industry, who developed many of the necessary instruments, radio devices, and controls that now permit flight operations literally in all kinds of weather.



C-46 NOSE SECTION — Captain John A. Mills shown entering a nose section of the C-46 Commando which contains installations of actual controls and instruments, and is used to study the position of these controls and instruments with relation to each other to effect greatest efficiency in pilot operation and safety. Mock-ups of the nose sections of other famous transport planes have also been set up at Wright Field.



TERRAIN MODEL—Staff Sergeant Harry Danielian and Joseph Smith at work on a terrain model at the All-weather Flying Division of the Air Technical Service Command at Wright Field. Exactingly executed model of the terrain surrounding the airport for a radius of 10 miles, it is built to the scale of one foot to the mile. When completed, it will serve as a visual aid in briefing pilots for approach landings.

Pilots of this special division fly missions at least once in every six-hour period to "look for trouble" by seeking out and flying into the worst weather conditions accessible by plane from their base.

The purpose of these flights is to find adverse weather, study its effects on plane performance, and record such effects in order that it will become possible to find methods or equipment to neutralize them. Only through such actual exposure to weather conditions now limiting general flight operations is it possible to determine exactly the nature of such limiting conditions, and to determine ways to master them, or at least extend limitations on safe flight now imposed by weather conditions.

The aircraft flown on these missions are virtually airborne weather laboratories, manned by meteorologists, engi-

(Concluded on Page 45)

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AIR EXPRESS, REA

The Air Express Division of the Railway Express Agency reports a marked increase of 22.9 percent in volume of shipments handled by international air express during January compared with the same month in 1945. Traffic to and from foreign points totaled 29,235 shipments for the month as against about 23,900 during the same period the year before. Gross revenue on this shipping amounted to $113,893, compared with $80,050, a rise of 42.2 percent for the month.

Air express shipments handled at New York City continued to climb in January with a total of 76,897. This total reflected an increase of 12.6 percent over the 68,297 shipments handled in January, 1945.

Gross revenue for the month, however, dropped 5.6 percent with $333,138 reported, as compared with $352,834 in January, 1945. This decrease was attributed by Agency officials to the drastic reductions in air express rates, ranging up to 13 percent, which went into effect on January 1.

AMERICAN

The domestic division of the American Airlines System carried 34,627 passengers out of LaGuardia Field in January, an increase of 92 percent over the same month last year and 16 percent over December, 1945. Operating factor for the month was 87 percent and passenger load factor was 90 percent. There were 252,899 pounds of air express carried, 111,471 pounds of air freight, and 275,076 pounds of air mail.

BEECH

Deliveries of the Beech Aircraft Corporation during the month of December, 1945, exceeded the deliveries accomplished by the company during the entire year of 1940.

Beech was the first major aircraft manufacturer to complete conversion from the production of military aircraft to commercial-type planes. Currently Beech is producing more than $3,000,000 worth of planes a month. Within a short time this figure will be substantially increased when the several new additional models Beech has in development begin to roll from the new assembly lines. The all-metal, twin-engine Model 18 is now being produced in volume.

COLONIAL

Stockholders of Colonial Airlines have subscribed for $1,714,500 of rights to purchase stock under the recent plan of financing offered by the company directly to stockholders. In excess of 92 percent of the rights were exercised The balance of the stock was taken up by directors and total payments into the treasury of the company will be in excess of $1,828,000.

EASTERN

The Board of Directors has recommended to the stockholders that Eastern Air Lines issue to holders of its common stock four shares in exchange for each share currently held, and that the authorized capital stock be increased from 1,000,000 shares to 5,000,000 shares. Under the proposed plan, the company would increase its presently outstanding stock from 600,000 shares to 2,400,000 shares. The recommendation of the Board of Directors will be voted upon at the regular meeting of the stockholders of EAL to be held April 23.

GLOBE

Stockholders of the Globe Aircraft Corporation, Texas, have approved a recapitalization plan and ultimate issuance of 150,000 shares of 5½ percent, $10 par, preferred stock. After a share-for-share exchange of common stock of the present corporation for stock in a Delaware company of the same name, common stockholders will receive an offer of the new preferred stock of the Delaware company on a pro rata basis at $9 a share. Globe has purchase orders for $18.000,000 of light planes.

PAN AMERICAN

Heavy increases in traffic, both passenger and express, between Seattle and Alaska during the month of January, were announced by J. D. Fessio, traffic manager of PAA's Alaska Region. Comparing January, 1946, with the same month last year, Fessio revealed northbound passenger traffic was up 256 percent over the volume handled during the same period last year, while air freight volume was 161 percent greater. Southbound passengers increased 100 percent over last year's volume and air express increased almost 500 percent.

WESTERN

During January, Western Air Lines showed an increase of 57.86 percent in revenue passenger-miles over January, 1945. Western flew 9,929,917 revenue passenger-miles during the month as compared with a January, 1945, figure of 6,290,366. It is also a 4.67 percent increase over revenue passenger-miles flown during the preceding month of December, 1945.

Straight from the Shoulder

(*Continued from page 13*)

Military leaders have pointed out what further developments they feel are needed before air transport can be an adequate auxiliary to the armed services. Those who have given thought to air transport potentials know that we are not yet ready to say that the system is complete. Much remains to be done. Consequently, the Congress, Government agencies, and those in the industry must continue the promotional policy so long and successfully followed.

This has been called the Air Age. It will be if we follow the sound policies through which we have attained our present position. In doing this, we will contribute to national prosperity—and to world peace.

Helicopter Transportation Possible, Piasecki States Before CAB Examiners

Are transport helicopters a reality?

F. N. Piasecki, president of the P-V Engineering Forum, thinks so—and he expressed his views before the Civil Aeronautics Board examiners as a Yellow Cab witness in the Middle Atlantic Route Case hearing. The helicopter man based his argument upon the performance of his big PV-3 which has been flying from the Sharon Hill, Pennsylvania factory for almost a year.

Piasecki stated that a commercial version of the PV-3 can be made available in nine months. This would be able to carry a pilot, 10 passengers, their baggage, and a small amount of mail and express in short-haul service. He said that the rotor wing aircraft has demonstrated its ability to fly in daily operations under all weather conditions, except icing. Piasecki added, however, that steps are now being taken to overcome this obstacle. He also revealed that his company has been conducting experiments with blind flying instruments, and that these have proved successful.

The PV-3, he said, has a cruising speed of over 100 miles per hour. It could commute between the Southwest Airport and a downtown Philadelphia terminal in eight minutes for a fare of one dollar.

FLYING BANANA—The PV-3, giant helicopter put out by the P-V Engineering Forum. A commercial version is possible in nine months, according to F. N. Piasecki.

(*Continued from Page 5*)

A new endurance record for single-engined military aircraft was claimed recently by a Marine Corps pilot, **First Lieutenant Albert J. Bibee,** who remained in the air over Japan for 17 hours, five minutes and 25 seconds in a Chance Vought *Corsair.*

The Department of State has announced that interim air rights, including the Fifth Freedom traffic privileges, have been granted reciprocally between the **United States** and **Belgium,** as of February 1, for an initial period of three months.

Manufacturers should consider incorporating folding wings in their new-design personal planes to save money for both fliers and airport operators, according to **John H. Geisse,** assistant to the administrator for personal flying development, Civil Aeronautics Administration. Geisse points out that the costs of storage and of hangar construction for such planes would be decreased, and the number of planes accommodated at a small airfield could be increased.

Numerous additional daily round trip charter flights between Miami and Havana have been contracted for by **TACA Airways.**

Boeing Aircraft Company has announced the formation of an integrated engineering-sales organization following the recent appointment of **Wellwood E. Beall,** formerly vice-president in charge of engineering, to the new office of vice-president in charge of both engineering and sales.

Consolidated Vultee has bought control of ACS-Brill Motors Company, makers of motor buses, trolley coaches, and specialized engines. The purchase puts Convair into automotive surface transportation.

Continental Motors Corporation has started production of a new nine-cylinder radial air-cooled airplane engine for post-war executive type and medium size transport planes to be manufactured by **Beech Aircraft** and the **Lockheed Aircraft.**

The "push-button" flight—fully automatic from take-off to landing—has been made possible by the development of a mechanical brain called the automatic flight controller by **Air Technical Service Command** designers and engineers. This device, which is used in conjunction with the A-12 automatic pilot, is described as a coordinated system of aircraft controls whose functions can be pre-selected to produce a desired point-to-point flight—automatic from start to finish. The first of these units is installed in a Douglas *Skymaster* four-engine transport plane, and is now being tested at the All Weather Flying Center, Columbus, Ohio.

Fred E. Weick, vice-president of the Engineering and Research Corporation and developer of a spinproof, stallproof, all-safety dual-control plane, has been selected as the winner of the 1945 Fawcett Aviation Award. In addition to the first presentation, five honor awards for significant contributions to the future of aviation were made to **Donald W. Douglas,** president of the Douglas Aircraft Corporation, for his development of the DC-4 and the C-74 *Globemaster;* **Hall L. Hibbard,** chief engineer of the Lockheed Aircraft Corporation, America's leading authority on jet propulsion and developer of the phenomenal P-80 *Shooting Star;* and **Lieutenant General Harold L. George,** commanding general of the Air Transport Command, for his contribution toward the establishment of a global transport system. Also honored were **Robert A. Lovett,** retired Assistant Secretary of War for Air, whose contributions toward numerous technical and scientific developments has helped place America in the leading post-war aviation position; and **Percival H. Spencer,** development engineer of Republic Aviation Corporation, designer of the amphibious *Seabee.*

A new overall maintenance dock designed by **United Air Lines** to meet the specific needs of the DC-4 and the DC-6, has resulted in an actual saving of 25 percent in maintenance time on the former plane. Consisting of six major sections, the dock completely surrounds and provides access to every part of the huge Douglas transports.

Protective Coatings Corporation, 689 Main Street, Belleville 9, New Jersey, has issued a 16-page brochure on the application of Aquastop synthetic impregnated, waterproof, sealed case liners.

A new flight record for a regularly scheduled Chicago-Washington commercial flight was established by **Pennsylvania-Central Airlines** on February 2, when its new four-engine *Capitaliner* flew 602 miles from Chicago to Washington in two hours and five minutes. The flying time was one hour and 19 minutes less than that regularly scheduled.

Airplane hangar fires in 1945 cost an estimated $38,000,000 and marked an all-time high in airport losses over a single year, according to statistics recently compiled by the **National Fire Protection Association.** The major fires of the year were limited to military and private operators, commercial airlines having excellent safety records. Among the factors contributing to serious fires, are absence of satisfactory water supply systems, inferior construction of many hangar buildings, lack of engineered fire protection and overcrowding of planes. The association urges that adequate measures be taken to secure each installation against untimely, destructive fires.

United Air Lines' air cargo department has been integrated with the traffic, sales and operations departments, effective March 1.

Using **Constellation** planes, KLM plans to start regular commercial air service between New York and Amsterdam on May 15, according to **Captain C. F. C. Meuser,** general representative.

An inadequate nation-wide airport system has been blamed by **C. Bedell Monro,** president of Pennsylvania-Central Airline, for hampering the development of air commerce in the United States.

Up to February 8, 1946, a total of 13 states had advanced funds to the **Provisional International Civil Aviation Organization.** They are: Australia, $39,720; Belgium, $31,776; Canada, $59,580; China, $60,000; Egypt, $13,579; France, $59,580; Iceland, $3,972; Iraq, $2,790.95; Liberia, $3,948.67; Norway, $19,860; Switzerland, $31,776; United Kingdom, $119,160; and the United States, $119,160. Of the above countries Australia, Belgium, Canada, China, France, Iceland, Norway, Switzerland, the United Kingdom and the United States have paid in full.

Eliminating all wartime underwriting restrictions, **Continental Casualty Company,** Chicago, has announced that its new universal commercial aviation accident policy now provides world-wide flight protection, anywhere to anywhere, at greatly reduced rates in certain classes. Furthermore, a new common carrier rider has been adopted to cover land and sea travel anywhere in the world.

Bernt Balchen has been appointed head of the traffic department of the **Royal Norwegian Airlines.** He is on terminal leave as a colonel in the United States Air Force.

AIR-MINDED, TOO—Henry J. Kaiser, West Coast industrial genius (center), posing in front of the experimental Kaiser-Hammond family plane with Dean Hammond (left) and H. V. Lindbergh (right). A low-wing four- or five-place pusher-type plane, it will be spin-proof, stall-proof, and cruise at 140 miles per hour, having a cruising range of 600 miles. No plans have yet been announced by the new company. Production, selling price, and delivery date are still unknown. Meanwhile, further flight tests will continue.

Pacific Airmotive Corporation, Glendale, California, has purchased and assumed operation of the **Timm-Larson** service and parts sales facilities, and aviation supply and repair business, at Chandler Field, Fresno, California. Pacific Airmotive will utilize this new PAC branch as an aircraft modification center and overhaul base.

Northwest Airlines is considering several cities throughout the nation in order to find the most advantageous location for a group of headquarters and maintenance buildings which the company plans to construct at a cost of from $7,000,000 to $8,000,000.

Two scarlet birettas were airborne from Rome to be presented to Cardinals-elect Saliego of Toulouse, France, and de Jong of Utrecht, the Netherlands, both of whom were too ill to go to Vatican City.

A committee has been appointed by **Dr. Edward Warner**, president of PICAO, to consider **Greece's** request for financial aid in re-establishing her airports and facilities to take care of international airlines.

Declaring that the freezing of the United States air route pattern at the trunkline level would retard the development of small and medium-sized communities, deprive a large portion of the people of this country of air transport service, and stifle the progress of the whole aviation industry, the **Port of New York Authority** at a hearing before the Civil Aeronautics Board examiners at Philadelphia, has urged the establishment of non-trunkline air service between the New Jersey-New York Port District and 76 communities in New York, New Jersey, Maryland and Pennsylvania. The agency also recommended that Trenton, New Jersey; Wilmington, Delaware; and Altoona and Johnstown, Pennsylvania be certificated as intermediate stops on direct trunkline air routes to the Port of New York.

Two Long Island New York companies, **Air Commuting** and **Air Ferries**, have applied to the Civil Aeronautics Board for airline permits. Air Commuting wishes to provide service from Southampton, Patchogue, Huntington and from Nassau communities, to La Guardia Airport and Anderson Airport at Idlewild, Queens. Air Ferries wants to operate from MacArthur Field to New England and Westchester airports, providing both freight and passenger service.

CARGO SPACE GALORE—Interior of the famous Fairchild Packet, known as the Flying Boxcar. It has 93 percent as much cubic capacity as a standard railroad boxcar. The Packet was built exclusively for the Army Air Forces, but it will probably be released for commercial operation by the end of this year.

President C. Bedell Monro of Pennsylvania-Central Airlines has told the CAB that transcontinental air transport companies have made "step children" of scores of important cities on their routes because of their preoccupation with "lucrative long-hauls." He said that air travel statistics have shown that there is a great need for more local travel accommodations.

A **KLM** C-54, with a full load of Goodyear airplane tires and tubes, made what is believed to be the longest pickup and delivery flight since the end of the war. The plane picked up the cargo at Akron, refueled at New York, and proceeded to Amsterdam, Holland.

The **World's Fair of Aviation** will be sponsored by the Knights of Ak-Sar-Ben on July 18 through July 21. The fair is planned for Offcutt Field, Fort Crook, Nebraska.

Lockheed Aircraft Service is converting three *Lodestars* purchased by **British West Indian Airways** from surplus Army stores released by the RFC for $25,000 each. When converted the planes will seat 14 passengers, pilot, co-pilot, and stewardess. They will have a cruising range of 1,300 miles and top speed of 250 miles per hour.

Group Captain Frank Entwistle, of the United Kingdom, has been appointed chief of the Meteorological Section, PICAO. Other appointments include **Ekkhoo Tan**, China, expert, Landing Areas and Ground Aids Section; **P. A. Puvrez**, Belgium, expert, Airworthiness Section; **D. G. H. Lefevre**, France, liaison officer, Regional Organization; **V. H. Davey**, Canada, liaison officer, Regional Organization; **A. D. Thiessen**, Canada, librarian; and **Miss J. M. Wollaston**, United Kingdom, chief, Registry Section.

An even dozen 30-minute flights over six cities, carrying underprivileged and orphaned children, newsboys, Air Scouts, newspapermen, and civic and business leaders inaugurated **Delta Air Lines'** first *Skymaster*. The promotional tour began in Fort Worth and ended in Atlanta.

March 15 is the day **PAA's** daily *Clipper* service between San Francisco, Los Angeles, and Honolulu, with four-engined landplanes, will offer fares reduced from $278 one way to $195. Passenger capacity per plane will be increased while flying time will be halved.

The Governments of **Canada** and the **Dominican Republic** have ratified the Permanent Convention on International Civil Aviation.

Civil Aeronautics Board hearings in Philadelphia have brought to light the applications of 31 different airlines seeking short-haul routes in the Middle Atlantic States.

Engineers and scientists of the **National Advisory Committee for Aeronautics** have predicted 1,000-mile-per-hour aircraft by 1950. In wind tunnels at Langley Field, Virginia, tests of models have attained speeds of 1,400 miles per hour—and that is far from the limit, experts say.

British Overseas Airway Corporation is planning to double its North Atlantic service to the United States and Canada, providing daily flights from London to New York and Montreal.

A *Taylorcraft* was safely lowered by a parachute invented by **Augustus S. Steinthal**, of New York. This was the first time in aviation history that a plane had been brought to the ground with a single parachute.

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Long-Haul First Class Air Mail At 3¢ Rate Backed by P.O. Report

ALL long-haul first-class mail could ride by air at a three-cent rate without loss, foreign air mail rates should be sharply reduced, and an air parcel post system should be established, Second Assistant Postmaster General Gael Sullivan has told Postmaster General Robert E. Hannegan. A 34-page report compiled by Sullivan as a result of exhaustive studies undertaken at the Postmaster General's direction to provide faster mail service and to contribute to the national defense by building up the nation's air fleet and utilizing war-trained personnel, was made public by Hannegan.

Sullivan made it clear that the day of carriage of all long-haul mail by air is not yet here.

"Many improvements will have to be perfected," he said, "to free air transportation from weather shackles and make it available for the major responsibility of expediting all long-haul mail on regular schedules in all kinds of weather."

Discussing the charges which the Post Office must pay for the transportation of air mail, he commented:

"Air mail transportation rates must be stabilized and further reduced. Until the postal service knows definitely the rates upon which it can depend, any major program is shrouded in uncertainty. Also, until a lower rate is established approximating the 32 cents per ton-mile proposed in the 'show cause' orders of the Civil Aeronautics Board, dated December 22, 1944, or even lower rates based on the costs of performing the service required by any particular kind of air traffic, the volume of mail that can be provided by the Post Office Department in furtherance of airline expansion will be restricted by the limitations of its revenues."

The following were Sullivan's conclusions:

1. Lack of aircraft, inability to fly without regard to weather and inadequacy of postal facilities at airports make it impossible for the carriers and the Post Office Department to handle all non-local mail by air now.

2. With postage of three cents an ounce on long-haul, first class mail would pay its own way, but existing profits from first class mail would be lost.

3. A pound-mile basis of computing air mail transport costs is cumbersome and a new norm should be sought.

4. Planes used exclusively for mail should be paid for on a charter basis, loaded to safe capacity, and operated on schedules most favorable to postal needs.

5. Inasmuch as mail is not more expensive to carry than other kinds of air traffic, but the rates are generally higher for air mail, a reduction in mail transportation rates should be considered.

6. Expansion of pick-up and feeder service should await formulation of a complete mail-transportation policy, location of additional highway post office lines, and the outcome of helicopter tests.

7. Foreign air mails should be made up for dispatch and receipt at airports, thus saving transportation costs to and from post offices.

8. Reciprocal agreements with all countries should be negotiated to eliminate interior handling charges upon receipt of mail at any port of entry and subsequent delivery.

9. Effects of establishing the same rates for transporting mail as the United States pays carriers to carry mail abroad should be studied. From this would come reduction in amounts charged most other countries and a consequent reduction in applications for air mail routes to this country, with United States carriers probably receiving more mail than now and thus being able to operate at or near capacity loads.

10. Agreements appear desirable whereby this country would dispatch some of its mail through foreign carriers in exchange for the other country using United States carriers, as cargo flowing in both directions would tend to hold cost at a minimum.

11. Regardless of port of entry, transit mail originating in one foreign country and destined to another should have a uniform rate based on cost of transporting plus a nominal charge for record work.

Looking to immediate action, Sullivan made these recommendations:

1. A joint committee representing the Post Office, State and Commerce Departments, CAB, and the air industry should be established to meet regularly for the solution of air problems.

2. The Post Office Department should work more closely with the CAB so as to engage actively in proceedings on hearings of Department needs for routes or applications for extensions and other matters involving the Department. The Department shoud testify at hearings and make known its recommendation.

3. Legislation providing a five cents an ounce domestic air postage rate with a subsequent reduction and possibly the carriage of all long-haul first class mail by air should be adopted at once.

4. Legislation establishing air parcel post rates, with a minimum fee of 45 cents and other rates fixed in accordance with costs shown by the Department's study should be enacted.

5. The Postmaster General should be authorized to lease all mail distribution space at airports, the present policy of requiring carriers to provide facilities having proven unsatisfactory and the space not adapted to mail handling.

6. Foreign air mail rates should be sharply reduced in accordance with schedules presented in this study, which would make possible a small profit.

7. Because operating rights from foreign countries and many problems in international air traffic must be channeled through the State Department, the Post Office Department would be aided materially if there were an Assistant Secretary of State for Air.

Charts showed in graphic form the results of the Department's air mail study.

Domestic air mail could be carried profitably at a rate of five cents an ounce. With such a rate the profit would be $10,834,052. If, however, the charge to the Post Office for air transportation is reduced to 32 cents per ton-mile the profit would be $16,036,905.

If all mail traveling 301 miles were carried by air at a three-cent rate, the air operation would show a profit of $45,265,315. However, the total deficit for the Department would be $180,035,490. If a four-cent non-local first class rate were adopted, the air operation would show a profit of $199,270,655, and the Departmental deficit would be $26,030,150.

If the 32-cent ton mile rate were adopted and all long haul mail went by air, the operation would show a profit of $82,775,355, with the Departmental loss being $130,866,615.

With a present volume of 34,000,000 pounds of domestic air mail, carriage of all long-haul mail by air would be 341,000,000 pounds. This would require 10 times as much plane space as is now used.

The proposed revision of foreign air mail rates looks to a single 10-cent per half-ounce rate for the whole Latin American area and United States possessions, displacing the present schedule of four rates ranging from 10 cents to 25 cents; for Africa a 20-cent rate to displace the eight rates ranging from 30 cents to 70 cents; for Europe a 15-cent rate, displacing the present 30-cent rate; for Asia a 30-cent rate, down from 70 cents; for the Philippines a 20-cent rate, down from 40 cents; for the East Indies a 25-cent rate, down from 50 cents and 70 cents.

11 Years Without Accident Wins International Safety Plaque for Cuban Airline

Compania Nacional Cubana de Aviacion, Cuban national airline affiliated with Pan American World Airways System, was awarded a bronze plaque by the Inter-American Safety Council, Inc., for having operated 11 years without an accident or fatality to passengers or crews at a special ceremony in Havana.

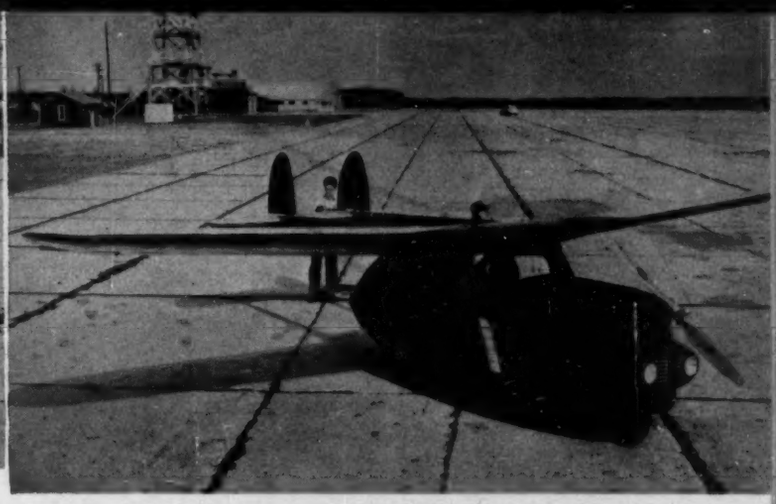
Guillermo Belt, Cuban Ambassador to the United States, was flown from Washington to Cuba's capital city on a special flight in order to attend the ceremony. The award was carried to Cuba by Captain Joseph N. Parrott, executive manager of the Safety Council, who presented it to the company through Minister of Communications Sergio I. Clark.

Cubana which operates the national airway system of Cuba has played an important part in the country's development. In the 11 years covered by the safety award Cubana has flown 47,967,763 passenger-miles. In addition to its national routes, the company has applied in Washington for a foreign carrier permit operation between Havana and Miami.

Airport Authority Bill Passed in N. Y. Senate

At press time, it was learned that the New York State Senate passed with just one more than the requisite number of votes the New York City administration's bill to set up an airport authority in the city to complete Idlewild Airport and take over operation of LaGuardia Airport. Passage is expected in the Assembly.

The bill empowers the new authority to take over existing city-financed facilities at Idlewild and to issue $250,000,000 in 40-year bonds, bearing three-and-a-half per-cent interest to complete the job. Nearly $70,000,000 of city funds are already invested at Idlewild.



Sky Jallopy

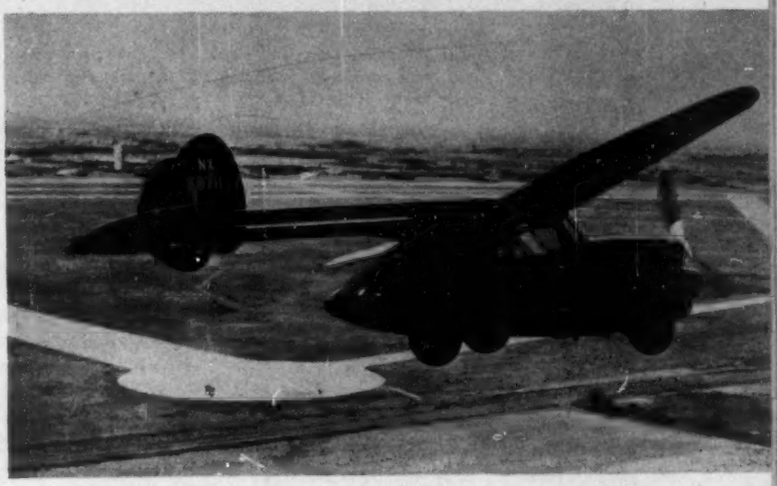
IS a combination automobile and airplane practical? This question has titillated thousands of persons for years, and now Southern Aircraft has come out with the answer—the *Roadable*. The two-in-one has been experimentally built, test-flown, and road-tested.

Gross weight of the craft is approximately 1,800 pounds. It has a 130-horsepower air-cooled engine which provides a top speed of 128 miles per hour and a cruising speed of 110 miles per hour. The wing span is only 30 feet, and the plane is easily handled on the ground.

Interesting to note is that the *Roadable* has the necessary controls without additional gadgets to complicate the operation. It has conventional controls as used in all automobiles. The brake and clutch pedals adapt for use as rudder controls, while the steering wheel operates ailerons and elevators while in the air.

Fast take-off has been arranged by combining gear operations with the propeller. When the *Roadable* is airborne, the gears are disengaged.

Production? Not yet! According to Willis Brown, general manager of Southern Aircraft, the *Roadable* is purely experimental . . . but the auto-plane may possibly have a place in the future.



UPPER LEFT—Hubby waves wife and child goodbye and prepares to depart in his automobile. His first stop will be at the airport.

UPPER RIGHT— Wings, propeller, and tail section are fitted to the automobile. Now it's ready to take to the air.

LOWER RIGHT—Looks like a nightmare, but it's true. The Roadable has taken to the upper reaches and the driver is now a pilot.

IATA Meetings

The postponed meetings of the International Air Transport Association's European Traffic Conference and Middle East Traffic Conference have been scheduled for March 11 and March 25 respectively.

2 New Airlines

It is reported that the new Long Island Airlines is backed by the two radio favorites, Guy and Carmen Lombardo. One Broadway columnist states that Jimmy Doolittle and Pappy Boyington have consented to act as co-pilots on the first flight.

ACT Flies Times

The New York Times, one of the most important newspapers in America, has signed a contract with Air Cargo Transport for delivery of the paper to Washington, D. C. The first flight consisted of 10,000 copies.

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THE HALLMARK OF HOSPITALITY

SLICK is the WORD

DOING AN AIR CARGO JOB—A typical Slick Airways Commando—one of a fleet of 10 such cargoplanes—now in operation. Slick maintains sales offices in key cities.

Earl F. Slick

AIR cargo is very much on the mind of Slick Airways—so much on its mind, that it isn't interested in the passenger business at all. To prove its point, the new cargo airline has ten C-46E's—the famous Curtiss-Wright *Commando*, world's largest twin-engine plane—all of which will be pressed into long-distance cargo transportation.

In modern vernacular, ten new *Commandos* ain't hay. But there's an interesting tale in this connection, and it begins before V-J Day when 17 such aircraft left the assembly line for points West. The cargoplanes were cooling their tails in Oakland, Calif., waiting for the word to proceed to the war zone when the news was flashed to this country that Japan had surrendered.

Earl F. Slick and Colonel Samuel C. Dunlap got wind of the 17 *Commandos*. The result was that a speed record in business transactions was chalked up: nine planes were purchased for the sum of $247,000, within the space of 15 minutes. The oldest ship had only 40 hours in the air. A tenth Commando was bought individually.

Young Slick is only 25 years old; but, as president of the airline, he has sunk his teeth firmly into the business of cargo-by-air which is his private passion. The son of the late Thomas Slick, well-known oil magnate, Earl and his elder brother, Thomas, Jr., are co-owners of the Slick Oil Company. Earl is no novice in aviation. He spent three-and-a-half years as a pilot in the Air Transport Command.

Now, there's Colonel Dunlap, executive vice president of Slick Airways. Air cargo is his forte, which fact is highlighted by his former position as commanding officer at Holmstead Field, Florida. It was there that pilots and crews were trained specifically for air cargo work.

W. Bankhart Langmore, vice president-sales, was a New York broker before entering the Navy. He served with the Atlantic Fleet, on the Admiral's staff, holding the rank of commander. E. A. Warren, vice president-operations, comes to Slick from Curtiss-Wright, where he headed the engineering sales section.

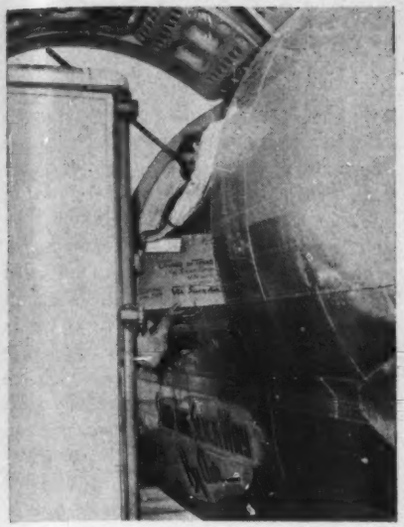
Headline hunters will remember the famous kidnapping case in 1938 which involved the abduction of Charles Urschel, Sr. The latter was a partner in Slick, Sr.'s, oil business; today he is serving on the board of directors of Slick Airways. But that doesn't end there. His son, Charles, Jr., who is a cousin and stepbrother of Earl Slick, holds the post of treasurer.

Operations begin this month from its base at Alamo Field, San Antonio, Texas. There have been, however, a few experimental loads flown in February. When the Texas Bragging Dinner was held in Washington, D. C., it was supplied with a 10,000-pound planeload of Texas-grown foods. Included in the items shipped by air were grapefruit, strawberries, cauliflower, spinach, radishes, broccoli, and rattlesnake meat. Yes, and even a live rattlesnake and some goat's meat (the last for Admiral Chester Nimitz's dish).

It was in that same month that the biggest air cargo shipment ever consigned to a department store was loaded on at Newark Airport and flown to San Antonio. Five tons of ladies' wear were delivered to Joske's Department Store in a matter of a few hours. In all there were 253 packages, representing the finished products of more than 100 manufacturers. Practically all of the shipment was style goods: dresses, slips, undergarments, handwear, footwear, and jewelry.

Slick Airways has signed its first long-term contract with *Time* Magazine. Twenty-two thousand pounds of this publication will be flown weekly from

BUSY AS BEES IN A HIVE—Well, it looks that way, doesn't it? Interior of a Slick Airways cargoplane in the process of being filled with five tons of ladies' wear to be delivered within a few hours to a point nearly 2,000 miles away.



NEWARK TO SAN ANTONIO—One of 253 packages being loaded into a Slick Airways Commando at Newark Airport. The 10,000-pound payload was consigned to Joske's Department Store in San Antonio, Texas.

the East to Fort Worth. Two planes will do the hauling, both heaving at the same time.

Rates are strictly on a contract basis. It is the aim of the new company to stimulate long-term volume air-shipping. Meanwhile, Slick experts are continuing with their air freight studies, while in the future looms the possibility of international cargo flights.

Safety is an important factor in the Slick set-up. It was Colonel Dunlap who had, for a long while, been on a careful lookout for good pilots. To date, the air cargo line has 35 pilots, of which all have had long ATC experience. Twenty-nine of the 35 have had prewar airline experience. However, all Slick pilots know what it is to fly regular scheduled runs, and each one has a standard air transport rating.

It was stressed by a company official that every cargoplane will be flown by two pilots—*both first pilots*. A crew chief, familiar with the mechanics of cargo loading and handling, is the third man on the plane. More than 150 maintenance employees have been hired and more will be added to the present number.

All but one pilot have had over 3,000 hours in the air. (That lone chap has had 2,750, and probably more than that when this is published.) According to one official, "most of the salesmen for Slick Airways have some 2,000 flying hours to their credit." Chief pilot is Joe C. Hearn, who has spent 8,500 hours in the air. His assistant is Grady Kelly.

Col. Samuel C. Dunlap

Branch sales offices are maintained in Chicago, Los Angeles, and New York. Robert C. Stockton heads the Windy City office, Thomas Bassett on the West Coast, and S. N. Benjamin in New York.

OBJECT: 365 Flying Days A YEAR

(*Continued from Page 38*)

neers, and specially trained pilots. Planes are equipped with many of the standard instruments used by weather forecasters as well as special devices suited to meet the requirements of all-weather flight operations.

After it is determined in actual flight tests that an instrument has proved effective in combating weather conditions or promoting safety in all-weather flying, a further problem is posed in determining the proper location for the new instrument on a cockpit control panel already crowded with a multitude of dials and gauges. Exhaustive study and tests are devoted to the problem, for proper location of the instrument is vital in effecting greatest efficiency in pilot operation and safety.

To facilitate study of this subject by experts, technicians, and pilots, "mock-ups" or actual nose sections of aircraft complete with installations of all controls and instruments are set up in a hangar of the All-Weather Flying Division. This unusual combination of laboratory and museum includes mock-ups duplicating in every respect the nose sections of the P-61, C-46, B-17, B-29, C-47, and C-54.

Another valuable ally in the battle against weather is an unusual type of map used by the All-Weather Flying Division. Graduated and divided with glass inserts and slides upon which are drawn cloud and weather conditions prevailing in the area depicted, the map gives almost at a quick glance a comprehensive picture of weather conditions existing at the moment. It also reveals weather conditions as they will be at any moment along the entire route of flight, thereby enabling the pilot to project his flight plan, before taking off, in such a manner as to be fore-warned and prepared for any weather conditions to be encountered.

Still another type of map now under construction at the All-Weather Flying Division is a relief or modeled-terrain map. Upon completion, it will serve as a visual aid in briefing pilots for instrument approach landings, with a resultant increase in safety which comes through knowledge of the pilot concerning his whereabouts in relation to the landing runways. Not only is this familiarity with the terrain helpful in contact flying, when the pilot is able to see the earth, but it is of equal or greater importance when poor visibility makes contact flying impossible, for then familiarity with terrain features enables the pilot to fly solely with aid of instruments and be fairly accurate concerning his location at any given time.

Ultimate goal of the All-Weather Flying Division of the Air Technical Service Command is to achieve absolute safety-in-flight for all aircraft, both military and commercial, regardless of weather conditions. To achieve this goal in winning the battle against weather, mist, fog, ice, and storm must be thoroughly analyzed and understood to be mastered.

Coloned Kelsey predicts that "it will not be many days before commercial and military aircraft will never be grounded, or landing fields closed to approachng aircraft, because of weather conditions. Flight schedules will be maintained—*safely!*"

N.Y. Airport Bill

Representatives of New York City have moved to change the Airport Authority Bill, providing for a city Airport Authority, to meet objections that have been raised since the measure was introduced. Former Mayor Fiorello H. LaGuardia is one of the bill's most outspoken opponents. As reworded, the bill permits the Authority to covenant on behalf of the city and state that no other airport may be constructed with public funds unless it comes under the jurisdiction of the Authority, or unless the bonds are in default on account of principal or interest for three years.

LEGAL NOTES on Air Transportation

By GEORGE BOOCHEVER

Chairman of the Legal Committee and General Counsel to the Aviation Section, New York Board of Trade

Airport Condemnation

PURSUANT to recommendations by the CAA, Congress has before it an extensive program of Federal-aid development. It entails a proposed expenditure by Federal, State, and local governments of from $750,000,000 to $1,400,000,000, and is designed to double the number of airports in the country in the next five or 10 years and to expand many of the existing airports.

The acquisition of the land for these projects will, in many instances, be by condemnation proceedings. In order to avoid unnecessary delays, the CAA has, under past airport construction programs, permitted construction to commence prior to the acquisition of title to the airport site, where condemnation proceedings have been commenced, provided that the airport sponsor has agreed to prosecute the proceedings to a conclusion and had the right to possession of the property.

An examination of the existing statutory provisions regarding condemnation proceedings discloses that in the majority of the States, political subdivisions, in condemning land for airport purposes, may enter upon and take possession at any time after commencement of the proceedings, or after appraisal by appraisers appointed by a court and the deposit in court of the appraised amount, before confirmation by the court. In 17 States, however, the statutes provide for possession only after the confirmation of the award by a court. In certain of these States possession is permitted before appeal; in others, not until the determination of all appeals, or until the time to appeal has expired.

This is one of the items in the Federal-State Program for 1946-47 which has been developed by the Council of State Governments and Federal Administrative Agencies, in cooperation with the Department of Justice. The report of the Council of State Governments recommends that in all States which lack suitable legislation, steps be taken to improve the condemnation statutes in order to avoid delay in commencing airport construction. Also, that in States where State ownership and operation of airports is authorized, the State agency in charge should have the power to take immediate possession of the site in connection with condemnation proceedings.

The States having inadequate condemnation statutes are: Alabama, California, Idaho, Illinois, Louisiana, Kentuck, Maine, Maryland, Michigan, Mississipi, Missouri, North Dakota, Ohio, South Carolina, South Dakota, Vermont, and Washington. New Jersey is partly classified in this group.

The New York Condemnation Law (Section 24, Chapter 923, Laws of 1920 as amended by Chapter 246, Laws of 1923), which has been upheld as to constitutionality, is recommended as a model. It provides:

"When it appears to the satisfaction of the court at any stage of proceedings that the public interests will be prejudiced by delay, it may direct that the plaintiff be permitted to enter immediately upon the real property to be taken, and devote it temporarily to the public use specified in the petition, upon the deposit with the court of a sum to be fixed by the court upon a notice to the parties of not less than eight days and such sum when so fixed and paid shall be applied, so far as it may be necessary for that purpose, to the payment of any award that may be made, with interest thereon from the date of the entry of the petitioner upon such real property, and the costs and expenses of the proceeding, and the residue, if any, returned to the plaintiff, and, in case the petition should be dismissed, or no award should be made, or the proceedings should be abandoned by the plaintiff, the court shall direct that the money so deposited, so far as it may be necessary, shall be applied to the payment of any damages which the defendant may have sustained by such entry upon and use of his property, and his costs and expenses of the proceedings, such damages to be ascertained by the court, or a referee to be appointed for that purpose, and if the sum so deposited shall be insufficient to pay such damages, and all costs and expenses awarded to the defendant, judgment shall be entered against the plaintiff for the deficiency, to be enforced and collected in the same manner as a judgment in the supreme court; and the possession of the property shall be restored to the defendant."

Airlines of World To Use Dharan Airfield

It is reported from Cairo, Egypt, that the newly constructed airfield at Dharan, Saudi Arabia, will not be restricted to United States aircraft. The field will be available for commercial use by airlines of any and all nations.

The field was originally constructed for the purpose of bringing air pressure upon Japan from another side. Now it will provide American planes with a more direct route to India from Europe, eliminating some of the stops on the ATC route to India. It is believed that American aircraft will cease using the Abadan Field in Southern Iran after the Dharan Airport is put into operation.

The United States Army has the right to use and operate the Arabian airport for three years, after which it will revert to the Saudi Arabian Government. However, American civilian personnel, whom the Saudi Arabians may select, will continue to operate the field after that time.

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AIR TRANSPORTATION NEWS

REG. U. S. PAT. OFF.

Schweizer Glider Towed From Factory to Buyer

The first glider to come from any factory since V-J Day, the SGU 1-19, product of the Schweizer Aircraft Corporation, Elmira, New York, was towed by a lightplane to Columbus, Ohio, and delivered to the Jones Flying Service. According to the glider manufacturers, it was the first motorless aircraft to be delivered through the air from factory to purchaser.

A single-place utility glider, the SGU 1-19 has a wingspan of 36 feet and eight inches. Its empty weight is 320 pounds and the gross weight load 550 pounds. Since the first model was built in 1944, the ship has made flights up to 30 miles, has soared to altitudes of more than 5,000 feet, and has remained aloft for periods of more than five hours at a time.

Besides the ready-to-fly models of the SGU 1-19, this glider is being manufactured in kit form for schools and other groups with proper facilities for assembling aircraft. The glider can be assembled during the normal shop class periods, in one school year. Then, after the ship is certified by CAA, it may be flown by student pilots, under proper supervision.

The SGU 1-19 Glider

SAC was the first company to deliver training gliders to the Army, continuing glider production for the Army and Navy until 1943. The company then turned to subcontract manufacture of warplane parts and assemblies for several large aircraft firms until the war's end last August. Reconverting to its specialty, the Schweizer firm already has a backlog of orders which, according to company officials, justifies their faith in the future of gliding and soaring.

Amsterdam-Curacao Flights To be Inaugurated by KLM

KLM has announced its plans to operate transatlantic flights between Amsterdam and Curacao in the Netherlands West Indies for the Netherlands Government Transportation Service.

The first in this new service was scheduled last month from Amsterdam, landing at Lisbon, Dakar, Natal and Paramaribo en route to Curacao. KLM uses the Douglas *Skymaster*, the same type of plane which the company is now operating on its regular four-weekly 9,000-mile flights between Amsterdam and Batavia in the Netherlands East Indies.

Although the first runs were charter flights for the Royal Dutch Shell Company and regular passengers were not accepted, a regular transatlantic service will soon be opened to the general public between both points. KLM officials stated that these flights realize for the Dutch Airline the plans which were interrupted by the outbreak of the war in 1939.

Jet Propulsion on Way

The recent record-smashing cross-country flight of three jet propelled P-80 planes and performance of the G-E Jet engines that drove them at an average of nearly 600 miles an hour is proof that the gas turbine motive force will soon be used to propel large civilian transport aircraft, according to Reginald G. Standerwick, General Electric engineer who directed design and development of the Super G-E Jet engines.

KLM

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SWEDISH MODERN—THE SILA WAY

Swedish Modern is an imposing name in furniture, and Swedish Intercontinental Airlines is quite aware of that—which leads to the logical conclusion that the soft angles of this design will influence the interior scheme of the four new Boeing *Stratocruisers* ordered by SILA for its 14-hour New York-to-Stockholm nonstop flights.

And what does the average American gourmet associate with his Swedish friends? You're right!—Smorgasbord! The SILA passenger will be getting that, together with drinks served at the cocktail bar on the lower deck.

The contract for the *Stratocruisers*—67½-ton commercial counterparts of the famous war-born *Superfortress*—was signed in Seattle by William M. Allen, Boeing president, and Sune Wetter, general counsel for SILA. The latter was accompanied by the Swedish company's chief engineer, Karl H. Larsson. First deliveries are scheduled for the early part of next year.

SILA has been conducting a number of survey flights on the North Atlantic route with converted *Flying Fortresses*. It is expected that regular traffic between this country and Sweden will be inaugurated by SILA in about two months. Douglas *Skymasters* will be used. Later these will be joined by the *Stratocruisers*.

Fourteen months ago, a *Stratocruiser* flew from Seattle to Washington, D. C., in slightly less than six hours and four minutes. The big plane has a cruising speed of 340 miles an hour and an operating range of 4,200 miles. It will carry a maximum payload of 40,000 pounds, operating at a 30,000-foot ceiling.

Possessing what Boeing describes as "the first true aircraft air conditioning system," it completely changes air in the cabin every 90 seconds, cooling or warming it, depending upon outside conditions. Sea level atmospheric conditions are maintained at all altitudes.

For change of environment within the plane, a circular stairway leads down to a 14-seat lounge where snacks are served. It is understood that Pan American World Airways is in line for 20 of these aircraft.

AMERICAN ELECTS 3 NEW VICE PRESIDENTS

Paul Peter Willis

R. E. S. Deichler

Rex W. D. Smith, Jr.

THE board of directors of American Airlines has elected Paul Peter Willis, Richard E. S. Deichler, and Rex W. D. Smith, Jr., as vice presidents. Willis has been made vice president-advertising; Deichler, vice president-administration; and Smith, vice president-public relations.

Willis, who has handled American's advertising since the company was first organized in 1930 as American Airways, is author of *Your Future in the Air*, and creator of the Air Globe. He was born in Princeton, Indiana, the son of a preacher. He worked his way through DePauw University, where he majored in history and literature, and was a member of Delta Kappa Epsilon.

Following four years of newspaper work in Terre Haute and Indianapolis, he turned to "press agenting" for the Indianapolis Speedway when it was built. Later he joined Willys-Overland as an advertising man, subsequently leaving to become connected with a Toledo advertising agency. He founded his own agency in 1926.

Deichler, recently discharged from the Army Air Forces as a colonel, has been executive assistant to C. R. Smith, chairman of the board. A Pennsylvanian by birth—Lancaster is the town—he attended the Wharton School, University of Pennsylvania, later taking post graduate work at Dickinson College. He is a member of the Alpha Chi Rho fraternity, University of Pennsylvania.

The new vice president-administration was in the hotel business for a number of years, holding several important posts. He served as editor of *American News*, personnel publication of the American Hotels Corporation. He joined American Airlines last August.

Smith became director of public relations for American last November after an extensive newspaper and public relations career. He served with the Army Air Forces, and held the rank of colonel at the time of his discharge.

During the war he organized public relations for the world operations of the Air Transport Command, served as director of the AAF's Office of Information, and was chief of public relations for the 20th Air Force. Before the war he spent several years in Europe as a correspondent and Associated Press executive. He became managing editor of *Newsweek* in 1937, leaving that publication to become the first editor of *The Chicago Sun*. He is a native of Gate City, Virginia.

C & S Will Have 1,000 Employees at Memphis

Chicago and Southern Air Lines will add 300 Memphis employees to the present total of 700 at the base, as one of the company's steps in its expansion program.

The company's general offices, main overhaul base for all its planes, maintenance shops and hangars will be greatly enlarged. The mechanical department will service the line's present fleet of aircraft and also four large 50-passenger *Skymasters* already purchased, that are to be put into operation by May 1.

As part of the change, the company's executive offices, consisting of about eight key officials and a personnel of from 40 to 50 employees, will be moved to Chicago next Fall. It was explained by Colonel N. Henry Josephs, vice president in charge of finance and administration, that C & S is not leaving Memphis, but that it "is getting ready for a tremendous expansion program." Plans call for at least $4,000,000 of additional investment for operations immediately, and more than $1,000,000 additionally during the coming year.

Among officials moving to Chicago will be Carleton Putnam, president of the line; Harvey L. Williams, executive vice president; A. J. Earling, vice president in charge of traffic and sales; Colonel N. Henry Josephs; Richard S. Maurer, general counsel; and John S. White, personnel director. Ranking official of the company in Memphis will be Bruce E. Braun, vice president in charge of operations.

American Begins Regular Service to Netherlands With Mercy Shipments

The United States and The Netherlands were linked by air for the first time last month when the American Airlines System inaugurated regular transatlantic plane service at LaGuardia Field, New York. Center of attraction of the christening of the big DC-4, *Amsterdam*, was the famous opera, concert, radio, and screen star, Gladys Swarthout, who is of Dutch descent.

Thousands of pounds of vital cargo were carried to help ease the shortage of clothing, food, drugs, and other necessities in The Netherlands. Citizens of Holland, Michigan, shipped a sample of "one of everything" they will send to Holland during the next six months. This shipment included shoes, rubber boots, warm underwear, and other wearing apparel. Token shipments of penicillin (10,000,000 units), drugs, fresh fruits, and four kinds of ready-to-eat Kellogg cereals totaling close to a ton were among the items carried. The cereals and drugs were turned over to The Netherlands Red Cross for distribution to hospitals.

Dutch mothers will receive sewing articles sent them by Gimbel Brothers in New York City—12,000 needles, 25 miles of sewing thread, thousands of buttons, and the finest electric sewing machine obtainable. The women of Holland have been without these items for four years. The big department announced its unusual shipment in sizable ads in the morning newspapers of the following day.

"While you are reading this," the ad said, "the flagship *Amsterdam* is pointing its nose toward a field in Amsterdam, Holland. The plane left New Amsterdam (New York) yesterday."

Elapsed flying time for the New York-Gander-Shannon-Amsterdam route is 18 hours. Incidentally, the immortal *Half Moon* of Hendrick Hudson required 75 days to reach New York from Holland 337 years ago.

"I CHRISTEN THEE AMSTERDAM"—The famous singing star, Gladys Swarthout, christening the American Airlines transatlantic transport, Amsterdam, which inaugurated regular service between New York and Holland's capital city.

9 Non-Scheduled Operators Combine to Form Institute Of Air Transportation, Inc.

Nine non-scheduled airline operators have grouped to form the Institute of Air Transportation, Inc., chartered as a cooperative, non-profit organization, with national headquarters at 550 Fifth Avenue, New York. Sigfried O. Samuelsson is acting chairman of the institute's board.

Charter members of the new organization are: American Air Export and Importing Company; National Skyways Freight Corporation; Pacific Air Cargo Company, Inc.; Trans-Caribbean Air Cargo Lines, Inc.; Trans-Marine Airlines, Inc.; U. S. Airlines, Inc.; Veterans' Air Express, Inc.; Veterans' Air Lines, Inc.; and Willis Air Service, Inc.

"The institute," Samuelsson declared, "will make possible the coordination of sales by its member airlines, presenting a program to business institutions whereby they can fly goods to distributors, using contract carriers, and flying sales and executive personnel to various sales and business meetings, using the services of charter operators. Rates will be based on costs and will be similar to those of the scheduled airlines. In many instances, charges may be added to base rates because of layovers of crews and equipment to meet package requirements of passenger or shipper. At present, the contract carriers are flying approximately 50,000 pounds per day and the charter operators are carrying approximately 1,000 passengers daily."

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with AMERICAN EXPRESS FOREIGN TRAFFIC SERVICE

For more than fifty years the American Express Company has been handling the many problems of export and import shipping for American firms. American Express services include

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Whatever the shipping detail, American Express offers a full technical service. American Express is also General Foreign Freight and Passenger Traffic Agent for the New York Central System.

The demand all over the world for American products is growing. The need for experienced and special handling is acute. The profits go to the shipper who reaches the markets promptly, efficiently, economically. The American Express Foreign Traffic Service is ready to help you do this. *Your inquiries are invited.*

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180 No. Michigan Ave.—Chicago 1, Ill.
253 Post Street—San Francisco 8, Calif.
177 Milk Street—Boston 9, Mass.
Sun Life Building—Montreal 2, P. Q.
Villalonga—American Express Co.—Buenos Aires
19 Melinda Street—Toronto, Ont.
S.A.V.I.—Rio de Janeiro, Brazil

(Trade Mark)

LANDING FEES

Scheduled and Non-Scheduled

LONG BEACH MUNICIPAL AIRPORT
Long Beach, California

Landings made by aircraft, the standard gross weight of which is not less than 15,000 pounds, nor more than 32,000 pounds, $3 per landing for each of the first four landings made during a calendar day of 24 hours, irrespective of whether such landings were made pursuant to schedule, non-schedule, revenue charter, or sightseeing trip operations. For each such landing in excess of the first four, but not more than eight during each calendar day, the charge is $2. For all landings in excess of eight during each calendar day, the charge is $1.50.

Landings made by aircraft, the standard gross weight of which is less than 15,000 pounds, $1.50 per landing for each of the first four landings made during a calendar day, irrespective of type of operation. For each such landing in excess of the first four during the calendar day, the charge is $1.

Landings made by aircraft, the standard gross weight of which exceeds 32,000 pounds, the rates mentioned in the first paragraph are made for each landing, plus an additional three and one-third cents per 1,000 pounds. Five hundred pounds, or any larger part of 1,000 pounds, are counted as 1,000 pounds, and any smaller part is disregarded.

All landings made by commercial airline companies for the purpose of cancelling out scheduled trips and/or for the purpose of originating scheduled trips which ordinarily arrive or depart from other airports, require the payment of a flat charge of $15 per landing. This does not apply to those airlines making scheduled stops at this airport.

LaGUARDIA and IDLEWILD AIRPORTS
New York, New York

The owner or operator of any aircraft using LaGuardia or Idlewild Airports (except aircraft engaged in scheduled operation and having a lease with the City of New York), shall pay for such use in accordance with the following classifications, charges, and rates:

Class	Rated Gross Weight (in lbs.)	Charge
A	3,000	$2.50
B	6,000	5.00
C	9,000	7.50
D	15,000	15.00
E	20,000	17.50
F	25,000	20.00
G	30,000	22.50
H	35,000	25.00
I	40,000	27.50
J	45,000	30.00
K	50,000	32.00
L	60,000	35.00
M	70,000	37.50
N	80,000	40.00
O	90,000	45.00
P	100,000	50.00

In lieu of paying at the rates specified above, the owner or operator of one or more aircraft making frequent use of the fields, may pay in advance for a minimum of 30 landings and takeoffs, or if a credit account has been established may pay within 10 days after the end of the month to which the billing refers as follows:

Class		Class	
A	$ 50	I	$650
B	100	J	700
C	150	K	750
D	300	L	800
E	350	M	850
F	500	N	900
G	550	O	950
H	600	P	1,000

The owner or operator of such aircraft which makes more than 30 landings and takeoffs within a 30-day period, in addition to the charge above shall pay for each landing and takeoff inclusive as follows: for the 31st to the 60th, three percent of the appropriate rate specified in the second paragraph; for the 61st to the 90th, two percent of such rate; thereafter, one percent of such rate.

Any aircraft which both originates and terminates its flight at any airport or landing facility within the City of New York, or within 50 miles of Idlewild, shall in lieu of the rate prescribed in the second paragraph pay 50 percent of the rate therein specified. However, such reduced rate shall be effective only upon presentation of satisfactory evidence to the Department of Marine and Aviation showing full compliance with the spirit and intent of this provision which is to facilitate the transfer by air of passengers, commuters, cargo and mail within the New York metropolitan area. In the event of various weight brackets or classifications, the average gross weight of all aircraft used during the month, shall determine the weight classification upon which charges will be calculated.

The owner or operator of aircraft using these airports under permits for scheduled operation (except lessees under more favorable contracts) shall pay for such use in accordance with the following rates:

LaGuardia Airport

1st 2nd, 3rd schedule . . . $200 monthly each
4th 5th, 6th schedule . . . 100 monthly each
7th, 8th, 9th schedule . . . 50 monthly each
10th and thereafter . . . 25 monthly each
plus $1 per 1,000 pounds in excess of gross weight of 25,000 pounds.

Where the gross weight is 25,000 pounds or under and in excess of 15,000 pounds, the rate will be 75 percent of the above rates. Where it is 15,000 pounds or under and in excess of 7,500 pounds, the rate will be 50 percent of the said rates. Where it is 7,500 pounds or under, the rate will be 25 percent.

Idlewild Airport

The rates specified in the standard airline contract for Idlewild. Where the scheduled route originates and terminates at airports located within 50 miles of this airport, a special discount of 50 percent will be allowed for any of the rates quoted in the preceding two paragraphs provided, however, that this discount shall not apply after the ninth schedule.

No person or corporation shall engage in scheduled operation (except lessees specifically exempted by contract with the city) at or from Idlewild and LaGuardia Airports without the payment of a fee of $5,000 annually for the privilege of operation schedules to and from said airports. This is in addition to the fees set forth above.

NOTE: AIR TRANSPORTATION *will publish landing fees as they are received. For complete details on rates mentioned in the special landing fees table but not published this month, consult back issues or write to the editor.*

LANDING FEES

		Scheduled				Non-Scheduled	
City	Airport	1st Trip per Month	2nd Trip per Month	3rd Trip per Month	Gross Weight (lbs.)	Per Landing	Gross Weight (lbs.)
Albany	Albany	$50.00	$25.00	$25.00	50,000	Not available	.....
Birmingham	Birmingham	100.00	50.00	25.00	.....	Not available	.....
Boston	Logan	100.00	100.00	100.00	.....	Not available	.....
Buffalo	Buffalo	50.00	50.00	50.00	25,000	$1.67	25,000
Chicago	Chicago	200.00	200.00	200.00	25,000	Not available	.....
Cincinnati	Lunken	6.25	6.25	6.25	.....	Not available	.....
Cleveland	Cleveland	150.00	150.00	150.00	.....	7.50[1]	.....
Dallas	Love	See footnote[2]	.....	.....	.....	See footnote[2]	.....
Detroit	Detroit	100.00	100.00	100.00	.....	No charges	.....
Long Beach	Long Beach [4]	3.00	3.00	3.00	32,000	3.00	32,000
Los Angeles	Los Angeles	See footnote[3]	.....	.....	25,500	See footnote[3]	25,500
New York	LaGuardia [4]	200.00	200.00	200.00	25,000	20.00	25,000
New York	Idlewild	See footnote [4]	.....	.....	.....	20.00	25,000
Newark	Newark	See footnote[4]	.....	.....	.....	See footnote[4]	.....
St. Louis	Lambert-St. Louis	100.00	100.00	100.00	.....	No charges	.....

[1] If cargo is loaded, the fee is $10.
[2] 8c per 1,000 lbs.
[3] $10 per departure per cargo plane. Consult article for additional information.
[4] Consult article for detailed information.

Newark Mayor Honored By Aviation Section

Presenting Mayor Vincent J. Murphy of Newark with a Benrus watch, John F. Budd, chairman of the Aviation Section, New York Board of Trade, and publisher of AIR TRANSPORTATION, declared that "an air-minded Newark and an air-minded New York have given the desired effect of closer relationship between our two great cities."

The presentation, which took place in the Hotel Sheraton, Newark, at a luncheon of prominent businessmen of that city and New York, was in behalf of the Aviation Section. It was described as a commemoration and token of appreciation of Mayor Murphy's efforts in revitalizing the recently reopened Newark Airport.

Budd stated that the airports of Newark and New York "are integral parts of a regional plan which serves to emphasize this metropolitan area as one of the most important commercial and industrial spots in the world." This fact has been recognized by the Aviation Section from the time of its origin, he added, and that realization "has been translated into terms of active cooperation with the City of Newark."

He predicted that Newark Airport would become "one of the more important air passenger terminals in the East," citing the speed with which the airlines and air contract carriers decided to operate from there. Murphy was praised for his efforts which resulted in the return of the airport to the city from the Army Air Forces.

Among those attending the luncheon were Carlos Kelly, chairman of the Aviation Committee, Newark Chamber of Commerce; Arnold M. Hess, Newark Department of Education; Adrian J. Flanter, official of the Benrus Watch Company; B. Hagios, executive vice president of the Broad Street Merchants' Association; E. Curry Dugan, Greater Newark Hotels Association; Daniel H. Ecker, James A. Leftwich, and S. O. Samuelsson, respectively executive secretary, public relations counsel, and chairman of the Air Contract Carriers Committee, Aviation Section; Michael Yamin, vice president of L. Bamberger and Company; Charles Kramer, United States Steel Corporation; Colonel L. H. Brittin, director of Edward S. Evans Transportation Research; Albert W. Neuscheler, Real Estate Board of Newark; Charles Harrison, assistant manager of the Sheraton Hotel.

FOR WORK WELL DONE—Mayor Vincent J. Murphy of Newark (left), accepting a Benrus watch from John F. Budd, chairman of the Aviation Section, New York Board of Trade, as Adrian J. Flanter, Benrus Watch Company official, looks on.

HOOSIER AIR FREIGHT will be in the air by April 15, 1946, operating a fleet of Douglas C-47 Skytrains . . . Contract carriers operating Any Place in Continental United States.

SPECIALIZING BETWEEN THE NORTH ATLANTIC SEABOARD AND THE MIDDLE WEST

HOOSIER AIR FREIGHT CORP.

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IT'S AN *Air* WORLD

[REG. U. S. PAT. OFF.]

By L. A. GOLDSMITH, *Economic Analyst*, AIR TRANSPORTATION

Colombian Airlines Purchase Seven U. S. Transport Airplanes

VIARCO, S. A., and Lansa Limitada are two air transport companies recently organized in the Republic of Colombia. Both are financed by Colombian capital and administered by Colombian executives. The officials of Viarco are Octavio Gonzalez, Fabio Londoño, and Bernardo Escobodo — all former officers of the Colombian Air Force. Their line will be operated between Cali on the Pacific Coast, and the interior city of Medellin, prominent industrial center and the capital city of perhaps the richest province of Colombia, the Department of Antioquia.

Ernesto Recaman, and Charles E. Peeples, together with other Colombian associates having airline experience, have organized Lansa Limitada. This line will fly between Barranquilla on the Atlantic Coast, and will also make Medellin one of its principal terminals in the interior.

The fact that each of these two new airlines is able to select the Atlantic and Pacific coasts for its base of operations, highlights once more the unique geographical position of Colombia in South America, the only country in that continent having both an Atlantic and Pacific coastline as an integral part of its own territory.

The sale of seven American airplanes to these new companies has just been completed by the Charles H. Babb Company at its New York office. Headquarters are at Glendale, Calif., where Babb, founder of the company, directs the business. The New York office is under the management of Edward Lund. Lund is enthusiastic about the possibilities for the sale of American planes abroad. He believes that the Babb firm is the oldest in the business of exporting airplanes from this country, handling such sales for the last 15 years, and for a longer period at home. He figures that at present Babb's business is about equally divided between foreign and domestic sales.

The Babb Company has a branch office in Mexico, and extensive sales have also been made in Canada. When the company does business in used planes, it does its own reconditioning under the supervision of its own technical experts. Babb also services these planes in foreign countries through the means of traveling technicians. The salesmen in the foreign field are also all technically qualified in airplane construction and mechanics.

In addition to selling airlines, Babb also specializes in sales to industrial firms. The Texas Oil Company recently purchased a Consolidated PBY-5A for use in Colombia. The oil company utilizes the plane for personnel transportation, as well as for transporting parts and equipment into inaccessible places. As Lund points out, the airplane can be considered a distinct "tool" of great value to those enterprises which managed to get along without aviation facilities before the arrival of the Air Age. Now with the advantages of aircraft in their "tool chest," their own work in developing oil fields and mining areas is greatly enhanced by considerable saving of time and energy on the part of executive personnel.

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Newspaper Editors Urged to Consider Utilizing Airplanes

A HIGHLY provocative piece on aviation appeared in a recent issue of *The American Press*. Its theme was the potential influence of local newspaper editors in creating, developing, and maintaining aviation interest on the part of their readers.

This article so impressed the editors of *Boletin Linotipico* that they adapted it almost in its entirety for their 30,000 Latin American readers. *Boletin* is a house organ pubiished in both Spanish and Portuguese editions by the Mergenthaler Linotype Company, of Brooklyn. Thirty thousand readers constitute an impressive house organ circulation for distribution in Latin America, and the quality of its hand-picked list of newspaper publishers, editors, writers and executives, creates an influence far beyond mere numbers. The implications of this adapted story could have far-reaching results; it could have an important bearing on the aviation thinking and development not only of Latin American editors, but on their readers.

The main thesis is that before the advantages of aviation can be understood and appreciated by the people of any community, it is necessary that the public become *interested* and *informed* on the subject. They point out that the editor of a local newspaper can lead in awakening and developing community interest in the advantages of aviation. For instance, they believe that a newspaper editor, who should be one of the first in the community to own a personal plane, could use it to attract attention and draw business to his newspaper. Several angles are indicated.

The first thing suggested is the inauguration of a vigorous campaign to build a real airport—not just an open field.

Then there is the question of the vital importance of on-the-ground reporting. A story that might seem to be too far away for a local paper to give it adequate coverage could be handled in no time at all, and very effectively, by a reporter making the trip by plane to the actual news spot.

Fires, floods, and similar emergencies are classed as special events as well as "acts of God." These can be observed from the air with a much greater and clear perspective. Aerial photographs impress such scenes on the readers' minds more vividly—far more graphically than the most brilliant word-pictures.

The very thought and idea of aviation, and all the new business that this brings in its train, would create new business opportunities for the newspaper. For instance, there would be bigger, better and more fuel stations to service the planes, aviation repair shops, aviation insurance, air express and air travel services, hangar space sales, airport concessions, and other types of services. One development would bring another, and many varying phases and factors, unforeseeable at the moment, would be likely to arise.

The theme of the aviation article was first, last, and foremost, that the possession of a personal plane by the editor and/or the newspaper would naturally attract attention, and, as a result, new readers and new business. Special aviation columns would do much to maintain interest at high pitch while also serving to create new readership.

IATA Traffic Conference Given Approval by CAB

The Civil Aeronautics Board has approved the traffic conference machinery of the International Air Transport Association for a period of one year. Conditions attached to the Board's approval require that any rate agreement, or other action of the conference affecting air transportation, shall not be binding on American carriers unless the CAB, acting under Section 412 of the Civil Aeronautics Act, shall have approved such agreements as being not adverse to the public interest.

In its opinion, the CAB answered the contention of those who oppose participation of American international air carriers in the rate conference as being against the public interest, saying:

"We cannot accept without proof the proposition that the present resolution, which establishes the only presently available machinery whereby the United States Government through this Board can share and have a voice in the regulation of the rates of our international air carriers, is inconsistent with that policy of controlled competition which the Civil Aeronautics Act contemplates . . . The competition contemplated by the Civil Aeronautics Act is not the unlimited and uncontrolled competition which permits destructive rates having no relation to the cost of operation but having the power to provoke subsidy wars among nations."

The alternative to the rate conference procedure, the CAB said, "would be to provoke unilateral control by other Governments of the rates charged by our carriers." Such a result "should not be considered satisfactory to any of the Governments concerned, including the Government of the United States." It is understood that the CAB will renew its request to Congress to give it the same broad power over the rates of United States air carriers in foreign air transportation that it now possesses over domesic airline rates.

New Routes

Colonial

Service between New York and Ontario, Ottawa, Canada was inaugurated last month by Colonial Airlines. This is the first commercial link to the Canadian capital from a city in the United States.

There are two flights daily from each city in this new service. From New York planes leave at 8:30 a.m. and 5:30 p.m.; from Ottawa the schedule calls for take-offs at 12:15 p.m. and 9:30 p.m. Flying time is three hours.

Continental

Tulsa, Oklahoma, and El Paso, Texas, have been linked via Oklahoma City, Wichita Falls, Lubbock, Hobbs, and Carlsbad, according to an announcement made by Robert F. Six, president of Continental Air Lines.

Establishment of the new route provides Northeast-Southwest air transportation for the first time between Lubbock, Wichita Falls, Big Spring and Midland-Odessa, Texas, as well as Hobbs and Carlsbad, New Mexico. Two daily flights are scheduled.

United's First Day of Air Freight Service Finds 65 Producers Shipping Cargoes

Participating in the opening day's air freight service of United Air Lines were upwards of 65 producers whose shipments provided a cross-section of the nation's industry. Nearly six tons of air freight comprised the inaugural day's send-off, and, according to airline officials, subsequent tonnage has exceeded preliminary estimates.

Included in the first shipments were civilian shoes and wool fabrics from New England; steel boiler tubes and paint labels from Cleveland; novelty jewelry, pharmaceuticals and all types of ready-to-wear merchandise from New York; prize gardenias, cut flowers, furs, high tension cable, dresses and hats from the West Coast, diphtheria toxoid from Toledo for transatlantic shipment to the Netherlands Government; new model postwar radios, women's frocks, paint, smoked fish, model planes, and engine parts from Chicago; and a full planeload of fresh oysters from the Chesapeake Bay area.

One Chicago manufacturer of new-type skinless frankfurters took advantage of air freight to speed an order to New York outlets; another shipped a special consignment of wedding veils to the West Coast.

Typical of comments from shippers was that of Charles C. Eaton, Jr., of the Eaton Shoe Company, Brockton, Massachusetts, who said:

"By means of air freight our stocks are quickly available to retailers thousands of miles away, enabling them to offer a wider selection of styles without increasing their stock investment. They may also test the popularity of a new style and be prepared to supply public demand for it overnight. We expect requests for air freight shipments from retailers and manufacturers in other parts of the country to continually increase."

AIR TRANSPORTATION *Congratulates*

Harvey L. Williams

Rufus K. Ward

Humphrey W. Toomey

Col. A. F. Davis, Jr.

Robert Robeson

Clyde S. Fullerton

EXECUTIVE

HARVEY L. WILLIAMS, elected executive vice-president of Chicago and Southern Air Lines. A veteran of the First World War, during which he served as liaison between the Army Air Corps and French airplane and engine factories, he turned up a decade later as president of Air Investors, Inc. He participated in the organization of the Aviation Corporation and American Airways (now American Airlines), serving on its board of directors and executive committee. Williams has also held many other important posts in the aeronautical field.

HUGH L. SMITH, vice-president of American Airlines, appointed resident manager in Oklahoma. A flyer since 1917, Smith entered commercial aviation in 1928 and was one of the first members of AA when the system was established 12 years ago. Ten years ago he became operations manager and in 1942 was appointed vice-president in charge of operations.

RUFUS K. WARD, who served on the planning staff for the airborne invasion of Europe with the rank of lieutenant colonel, named general manager of all TACA Airways operations in the United States and the Caribbean region. He served 10 years as a pilot and captain for United Air Lines before entering the service. He saw action in the European and African-Italian theatres, and has been decorated several times.

HUMPHREY W. TOOMEY, named manager of the Latin American Division of Pan American Airways. His last post was that of regional director in Brazil, Argentina, Uruguay and Paraguay. A Navy-trained pilot and aeronautical engineer, he turned to commercial aviation in 1929. He flew the early *Clippers* to Latin America.

J. J. O'DONOVAN, vice president of Pennsylvania-Central Airlines, elected to the board of directors of Air Cargo, Inc. Air Cargo is directed by representatives of 17 airlines.

CAPTAIN BERT L. SNELL, appointed assistant Midwestern Division manager of the Luria Engineering Corporation. For 15 years prior to his tour of military duty, he was employed by the Army Engineers in a civilian capacity.

ADVERTISING AND PUBLIC RELATIONS

LIEUTENANT COLONEL A. F. DAVIS, back again with Aeronca Aircraft as manager of advertising and publicity, after 26 months with the Army in Europe. He served on the staffs of Field Marshal Sir Bernard L. Montgomery, General Omar Bradley, and General George S. Patton. Davis was a member of the United States Strategic Bombing Survey in Europe and was co-author of the book, *The Effects of Air Power on the War in Western Europe.*

ROBERT ROBESON, appointed executive assistant in United Air Lines' public relations department at Chicago. A native of Chicago, he spent 12 years in the newspaper and advertising field before joining UAL in 1940.

TRAFFIC

CLYDE S. FULLERTON, named general traffic manager of Transcontinental and Western Air. He is a 15-year veteran with the airline. Since October, 1944, he has been TWA director of passenger sales. Fullerton is a native of Chillicothe, Missouri.

GORDON R. McGREGOR, who joined Trans-Canada Air Lines after a distinguished war record, elevated to the position of general traffic manager for the system. Educated at St. Andrews College and McGill University, he took up flying 14 years ago and won a number of trophies. His present headquarters are at Winnipeg.

ARCH P. WERNER of Kansas City, Missouri, appointed district traffic manager in New York for TACA. Before serving with the Army Air Forces, he held positions with Northwest Airlines and Eastern Air Lines.

JAMES W. SPEER and **RONALD McVICKERS,** promoted to the respective posts of traffic manager and assistant traffic manager at Newark for Northwest Airlines. NWA's Newark office will be opened at 70 Broad Street.

V. K. STEPHENS, former PCA traffic manager in New York and Washington, now filling the post of district traffic manager in Pittsburgh. He will direct all activities in that area.

ROY C. STOKELY, named district traffic manager for Continental Air Lines at Oklahoma City. He has just returned to the company after three years in the Naval Air Transport Service.

ALLEN E. TOWNE, returned to United after three years with the Army Air Forces, and assigned as district traffic and sales manager at Des Moines. He is a 15-year veteran of the company.

CARGO

J. DONALD LAWSON, appointed assistant cargo traffic manager of Chicago and Southern Air Lines. In the past he has been connected with the Chadwick System, Horton Motor Lines, Associated Transport, Inc., American Trucking Association, and Grace Lines.

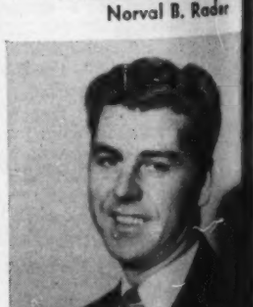
Gordon R. McGregor

Arch P. Werner

J. Donald Lawson

Charles R. Hussy

Norval B. Rader



Edward E. Lubischer

PASSENGER

CHARLES R. HUSSY, named system superintendent of reservations for Northwest Airlines. A graduate of Northwestern University law school, he came to NWA five years ago as reservations' agent in Chicago. His present headquarters are in Minneapolis.

MARY A. KELLY, former chief stewardess for Northeast Airlines, promoted to supervisor of stewardesses. She has flown more than 1,800 hours and traveled more than 275,000 miles.

SALES

NORVAL B. RADER, just back after 3½ years with the Marines, now holding down the newly created job of manager of passenger sales at the airline's Chicago headquarters. A 16-year veteran of the company, he served as Eastern sales manager before going on military leave.

R. W. GEMMELL, appointed manager of the Aircraft Sales Department of the Westinghouse Electric Corporation, Lima, Ohio. He has been working on aviation problems since 1936.

MAJOR LEONARD H. PETERS, JR., named assistant to the district sales manager for American Airlines in New York. He has been with AA since 1935. Peters recently returned after service with the Air Transport Command.

JOHN I. WAGNER, veteran Latin American airline pilot, now serving as Latin American sales representative for the Lockheed Aircraft Corporation. He will coordinate sales and service activities for all types of Lockheed aircraft.

OPERATIONS

EDWARD E. LUBISCHER, appointed operations manager at Newark for Intercontinental Air Transport Company. A pilot with an instructor's rating, he has flown more than 40 different types of planes. During the war he served in the Marianas and Pearl Harbor.

TWA Applies to CAB For African Route

An application to bring commercial air service for the first time to the area along the East Coast of Africa has been filed by TWA with the Civil Aeronautics Board.

The airline requested authority to add to its present route a 4,492-mile extension from Cairo to Johannesburg, Union of South Africa, with intermediate stops at Jidda, Saudi Arabia; Asmara, Eritrea; Addis Ababa, Ethiopia; Mombasa, Kenya Colony; Dar es Salaam, Tanganyika; Mozambique and Lorenzo Marques, Portuguese Colony of Mozambique.

Righi Addresses Ad Women

"Businessmen in the aircraft industry in the United States are instigating expansion of hotel facilities and other travel comforts in Latin America in the hope of encouraging tourist trade south of the border even after Europe opens up," Arrigo Righi, of Pan American Airways, told a group of New York advertising women at the Belmont Plaza.

AWARD WINNER — Fred E. Weick (right), vice president of the Research and Engineering Corporation, being presented with a check for $1,000 and the Fawcett Aviation Award Trophy by Captain Eddie Rickenbacker, president and general manager of Eastern Air Lines, in recognition of his development of a spinproof, stallproof, all-safety dual-control plane.

MEDAL ON HIS CHEST—Colonel Ray W. Ireland (right), vice president-administration of United Air Lines, receiving the coveted Distinguished Service Medal, highest award for non-combatant duty, from Lieutenant General Harold L. George, commanding officer of the Air Transport Command. The award was for "exceptionally meritorious service" by Colonel Ireland in his capacity as head of the priorities and traffic division of the ATC.

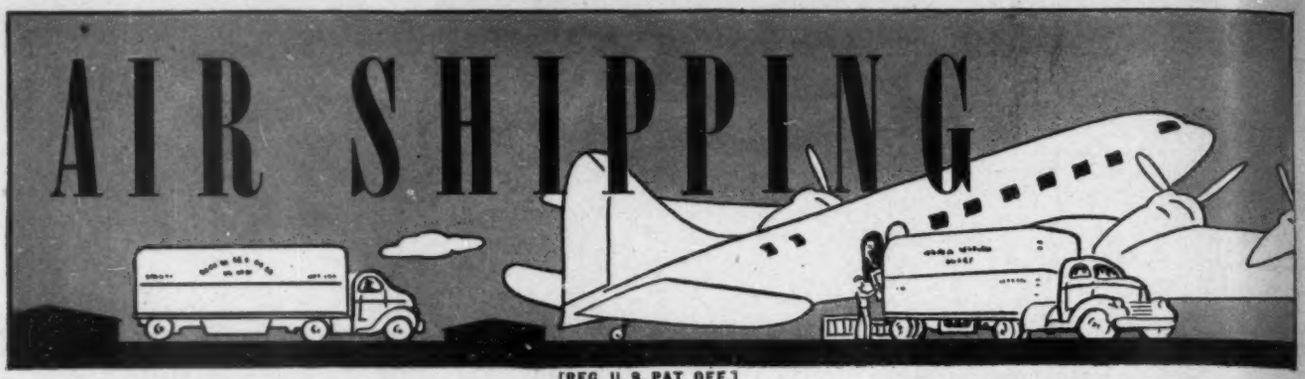
Piper J-5 Goes Into Production Next Month

The new Piper J-5 *Super Cruiser,* designed as a utility airplane for the private flier, will go into production in April, it was announced by the Piper Aircraft Corporation. It is one of the first planes to be licensed under the modernized Civil Air Regulations issued by the Civil Aeronautics Board November 13, 1945, and has been released by the CAA both as a carrier and as a trainer plane. The new Civil Air Regulations were developed to permit the private owner to make use of the full load carrying capacity of his plane for transportation purposes.

As a carrier, the *Super Cruiser* has been licensed to fly at a gross weight of 1,750 pounds—a weight which includes the pilot, two passengers and baggage, and sufficient fuel for a six-hour flight. When used as a trainer, the new Piper model can be flown at a gross weight of 1,500 pounds. This weight includes pilot, student and four hours of fuel. The J-5 has been equipped with dual controls for student training.

A three-passenger monoplane, the *Super-Cruiser* has a cruising speed of 100 miles per hour and a top speed of 120 to 125 miles per hour. The plane includes such outstanding features as an electric starter and generator, which eliminates hand cranking, and extreme light weight which permits easy handling for storage purposes.

PIPER SUPER CRUISER—Long-range light plane having a top speed of 115 miles per hour and a low speed of 48 miles per hour. It will accommodate three passengers.



[REG. U. S. PAT. OFF.]

International Express and Mail Tables

Air express rates quoted are from U. S. International airport of departure (U. S. Gateway) and are based on th prevailing tariffs, airport to airport (**see note**); also see note for Airfreight rates. Shippers are warned, however, that these are subject to change.

GATEWAY SYMBOLS

Bb—Bangor, Me.
Bro—Brownsville, Tex.
Bw—Boston, Mass.
Cg—Chicago
Cub—Cut Bank, Mont.
Dl—Dallas
Ep—El Paso
Fv—Fort Worth
Gf—Grand Forks, N. D.
Jg—Burlington, Vt.
Lgs—Los Angeles
Lo—Laredo
Mia—Miami
No—New Orleans
Nyk—New York
Ph—Philadelphia
Sa—San Antonio
Sf—San Francisco
Sg—San Diego
Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per $100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart, in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pickup service without extra charge is available for all international air express, except shipments routed through American Overseas Airlines. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local REA office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Overseas Airlines, Inc., shippers should contact "Shipper's Service," Room 922, 25 Broadway, New York 4, N. Y. HAnover 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport.

AIRLINE SYMBOLS

A—American Airlines
AO—American Overseas Airlines
B—Braniff Airways
C—Colonial Air Lines
EA—Expreso Aereo Inter-Americano
K—KLM-Royal Dutch Air Lines
NE—Northeast Airlines
NW—Northwest Airlines
P—Pan American Airways System and affiliates
T—Trans-Canada Air Lines
TA—TACA
TW—Transcontinental & Western Air
U—United Air Lines
W—Western Air Lines

Destination	U.S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Camaguey, Cuba	Mia P	.26	.17	Thrice Dly	.08
"	Mia K	.17	.15	M,Th	.08
Campeche, Mexico	Mia P	.41	.17	Dly	.08
"	No P	.41	.17	Dly	.08
"	Bro P	.51	.32	Dly	.08
"	Lgs P	1.00	.32	Dly	.08
Campo Grande, Brazil	Mia P	1.48	.43	Mo,W,Sa	.20
"	No P	1.61	.43	Su,T,F	.20
"	Bro P	1.61	.43	M,Th,Sa	.20
"	Lgs P	2.18	.43	Su,W,F	.20
Canavieiras, Brazil	Mia P	1.33	.43	Th,Sa	.20
"	No P	1.81	.43	W,F	.20
"	Bro P	1.81	.43	T,Th	.20
"	Lgs P	2.38	.58	M,W	.20
Caracas, Venezuela (*See La Guaira*)					
Caravellas, Brazil	Mia P	1.36	.43	T,W	.20
"	No P	1.85	.43	M,T	.20
"	Bro P	1.85	.43	Su,M	.20
"	Lgs P	2.41	.58	Su,S	.20
Cayenne, Fr. Guiana	Mia P	1.02	.32	Dly	.15
"	No P	1.26	.43	Dly	.15
"	Bro P	1.26	.43	Dly	.15
"	Lgs P	1.91	.43	Dly	.15
Cayo Mambi, Cuba	Mia P	.26	.17	Dly	.08
Chetumal, Mexico	Mia P	.55	.32	M,W,Sa	.08
"	No P	.55	.32	M,W,Sa	.08
"	Bro P	.55	.32	Su,T,Th	.08
"	Lgs P	1.04	.32	M,W,Sa	.08
Chiclayo, Peru	Mia P	1.11	.43	Dly	.15
"	No P	1.19	.43	Dly	.15
"	Bro P	1.19	.43	Dly	.15
"	Lgs P	1.81	.43	Dly	.15
Cienfuegos, Cuba	Mia P	.20	.15	Dly	.08
C. del Carmen, Mexico	Mia P	.45	.17	Dly	.08
"	No P	.45	.17	Dly	.08
"	Bro P	.47	.32	Dly	.08
"	Lgs P	.94	.32	Dly	.08
CiudadTrujillo, D. R.	Mia P	.45	.17	Thrice Dly	.08
"	Mia TA	.50	.20	Frequently	.10
"	Mia K	.73	.32	Tu	.08
Ciudad Victoria, Tamps.	Dl B	.30	.17	Dly	.08
"	Fv B	.30	.17	Dly	.08
"	Lo B	.16	.15	Dly	.08
"	Sa B	.23	.17	Dly	.08
Cochabamba, Bolivia	Mia P	1.26	.43	M,W,Sa	.20
"	No P	1.35	.43	M,W,Sa	.20
"	Bro P	1.35	.43	Su,T,F	.20
"	Lgs P	1.95	.43	M,Th,Sa	.20
Concepcion, Bolivia	Mia P	1.31	.43	Sa	.20
"	No P	1.45	.43	Sa	.20
"	Bro P	1.45	.43	F	.20
"	Lgs P	2.03	.43	Th	.20
Cordoba, Argentina	Mia P	1.49	.43	Dly	.20
"	No P	1.63	.43	Dly	.20
"	Bro P	1.63	.43	Dly	.20
"	Lgs P	2.19	.43	Dly	.20
Coro, Venezuela	Mia P	.74	.32	Dly	.08
"	No P	1.07	.43	Dly	.15
"	Bro P	1.11	.43	Dly	.15
"	Lgs P	1.69	.43	Dly	.15
Corumba, Brazil	Mia P	1.41	.43	M,Sa	.20
"	No P	1.56	.43	Su,F	.20
"	Bro P	1.56	.43	Th,Sa	.20
"	Lgs P	2.13	.43	W,F	.20
Cristobal, Canal Zone	Mia P	.76	.32	Dly	.10
"	No P	.92	.32	Dly	.10
"	Bro P	.92	.32	Dly	.10
"	Lgs P	1.46	.43	Dly	.10
Cuenca, Ecuador	Mia P	1.06	.32	Su,W,F	.15
"	No P	1.15	.43	Su,W,F	.20
"	Bro P	1.15	.43	T,Th,Sa	.20
"	Lgs P	1.76	.43	M,W,F	.20
Curacao, N.W.I.	Mia P	.73	.32	Dly	.10
"	No P	.93	.32	Dly	.10
"	Bro P	1.11	.43	Dly	.15
"	Lgs P	1.73	.43	Dly	.20
"	Mia K	.73	.45	Dly	.10
Curityba, Brazil	Mia P	1.60	.43	Su,M,W	.20
"	No P	2.00	.43	Su,Sa,T	.20
"	Bro P	2.00	.43	F,Sa,M	.20
"	Lgs P	2.58	.58	Th,F,Su	.20
David, Panama	Mia P	.81	.32	Dly	.08
"	No P	.85	.32	Dly	.08
"	Bro P	.85	.32	Dly	.08
"	Lgs P	1.38	.43	Dly	.08

Destination	U.S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Bahia, Brazil (*See Sao Salvador*)					
Balboa, Canal Zone	Mia P	76	.32	Dly	.10
"	Mia TA	.76	.20	Frequently	.10
"	No P	.90	.32	Dly	.10
"	Bro P	.90	.32	Dly	.10
"	Lgs P	1.45	.43	Dly	.10
Baracoa, Cuba	Mia P	.28	.17	Dly	.08
Barcelona, Venezuela	Mia P	.85	.32	Dly	.15
"	No P	1.13	.43	Dly	.15
"	Bro P	1.17	.43	Dly	.15
"	Lgs P	1.78	.43	Dly	.15
Barranquilla, Columbia	Mia K	.72	.32	Tu,Sa	.15
via Kingston	Mia P	.91	.32	Dly	.15
via Balboa	Bro P	1.03	.32	Dly	.15
"	No P	1.03	.32	Dly	.15
"	Lgs P	1.59	.43	Dly	.15
Bauru, Brazil	Mia P	1.58	.43	M,Sa	.20
"	No P	1.71	.43	Su,F	.20
"	Bro P	1.71	.43	Th,Sa	.20
"	Lgs P	2.28	.58	W,F	.20
Belem, Brazil	Mia P	1.13	.43	Dly	.20
"	Mia TA	1.09	.43	Frequently	.20
"	No P	1.34	.43	Dly	.20
"	Bro P	1.34	.43	Dly	.20
"	Lgs P	1.95	.43	Dly	.20
Belize, Br. Hond.	Mia TA	.50	.20	Frequently	.10
Bello-Horisonte, Brazil	Mia P	1.65	.43	Su,W,F	.20
"	No P	2.13	.43	T,Th,Sa	.20
"	Bro P	2.13	.43	M,W,F	.20
"	Lgs P	2.69	.58	Su,T,Th	.20
Bluefields, Nicaragua	Mia TA	.60	.20	Frequently	.10
Bonaire, N.W.I.	— P	via Curacao, N.W.I.			
"	Mia K	.68	.32	M,Tu,Th,F, Sa	.10
Bonanza, Nicaragua	Mia TA	.61	.20	Frequently	.10
Buenos Aires, Argentina	Mia P	1.56	.43	Dly	.20
"	No P	1.70	.43	Dly	.20
"	Bro P	1.70	.43	Dly	.20
"	Lgs P	2.26	.58	Dly	.20
Cali, Col. via Balboa	Mia P	.89	.32	Dly	.25
"	No P	1.03	.32	Dly	.25
"	Bro P	1.03	.32	Dly	.25
"	Lgs P	1.59	.43	Dly	.25

NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: 1 lb. package from New York to Ontario would cost $1 or 25 lbs. $4. Average cost per lb.; 16¢ . . . Valuation rates are only due if consignments are shipped with declared value. . . . **American Airlines** offers International Airfreight Service on shipments over 25 pounds between its gateway points and Monterrey and Mexico City. Four classes of rates have been established. For further information, contact American Airlines.

* British Overseas Airways Corp. carries from Foynes, Ireland to destinations in England, Scotland, and Wales.

† Canadian air express is carried on the same basis as air express within the U. S.: $50 declared value free; excess charged at 10 cents per $100 or fraction thereof.

LATIN AMERICAN ROUTES

Antigua, B. W. I.	Mia P	64	32	Sa	.10
"	No P	96	32	Su	.10
"	Bro P	1.13	43	Sa	.10
"	Lgs P	1.73	43	F	.10
Antilla, Cuba	Mia P	.24	15	Dly	.08
Antofagasta, Chile	Mia P	1.26	.43	Su,M,W,F,Sa	.20
"	No P	1.34	.43	Su,M,W,F,Sa	.20
"	Bro P	1.34	43	Su,T,Th,F,Sa	.20
"	Lgs P	1.95	43	M,W,Th,F,Sa	.20
Aracaju, Brazil	Mia P	1.26	43	Th,Sa	.20
"	No P	1.71	43	W,F	.20
"	Bro P	1.71	43	T,Th	.20
"	Lgs P	2.28	58	M,W	.20
Arequipa, Peru	Mia P	1.23	.43	Dly	.15
"	No P	1.26	.43	Dly	.15
"	Bro P	1.26	.43	Dly	.15
"	Lgs P	1.93	.43	Dly	.15
Arica, Chile	Mia P	1.25	43	Su,M,W,F,Sa	.20
"	No P	1.26	43	Su,M,W,F,Sa	.20
"	Bro P	1.26	43	Su,T,Th,F,Sa	.20
"	Lgs P	1.94	43	M,W,Th,F,Sa	.20
Aruba, N. W. I.	— P	via Curacao N. W. I.			
"	Mia K	.61	.32	Dly	.10
Asuncion, Paraguay	Mia P	1.73	.43	Su,W	.20
"	No P	1.86	.43	Sa,T	.20
"	Bro P	1.86	.43	F,M	.20
"	Lgs P	2.43	.58	Th,Su	.20

Destination	U.S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Esmeraldas, Ecuador	Mia P	.99	.32	M	.15
"	No P	1.11	.43	M	.15
"	Bro P	1.11	.43	Su	.15
"	Lgs P	1.71	.43	Sa	.20
Florianopolis, Brazil	Mia P	1.63	.43	Sa	.20
"	No P	2.11	.43	F	.20
"	Bro P	2.11	.43	Th	.20
"	Lgs P	2.68	.58	W	
Fort de France, Martinique	Mia P	.71	.32	F,Sa	.10
"	No P	1.00	.32	Su,F	.10
"	Bro P	1.16	.43	Th,Sa	.10
"	Lgs P	1.78	.43	W,F	.10
Fortaleza, Brazil (Ceara	Mia P	1.23	.43	M,T,W,Th,Sa	.20
"	No P	1.54	.43	Su,M,T,W,F	.20
"	Bro P	1.54	.43	Su,M,T,Th, Sa	.20
"	Lgs P	2.10	.43	Su,M,W,F,Sa	.20
Georgetown, British Guiana	Mia P	.90	.32	Su,F,Sa	.15
"	No P	1.24	.43	Th,F,Sa	.15
"	Bro P	1.24	.43	W,Th,F	.15
"	Lgs P	1.88	.43	T,W,Th	.15
Golfito, Costa Rica	Mia TA	.66	.20	Frequently	.10
Guadalajara, Mexico	Bro P	.43	.17	Dly	.08
"	Lgs P	.59	.32	Dly	.08
Guantanamo Cuba	Mia P	.28	.17	Dly	.08
Guatemala City, Gua.	Mia P	.59	.32	Dly	.10
"	No P	.53	.32	Twice Dly	.10
"	Bro P	.53	.32	Dly	.10
"	Lgs P	1.08	.43	Dly	.10
Guayaquil, Ecuador	Mia P	1.04	.32	Dly	.15
"	No P	1.15	.43	Dly	.15
"	Bro P	1.15	.43	Dly	.15
"	Lgs P	1.75	.43	Dly	.15
Havana, Cuba	Mia P	.12	.15	Thrice Dly	.08
"	MiaEA	.12	.15	Twice Dly	.08
"	MiaTA	.12	.15	Frequently	.08
Hermosillo, Mexico	Lgs P	.24	.15	Dly	.08
Iguassu Falls, Brazil	Mia P	1.69	.43	W,Su	.20
"	No P	1.91	.43	T,Sa	.20
"	Bro P	1.91	.43	M,F	.20
"	Lgs P	2.48	.58	Su,Th	.20
Irtepec, Mexico	Mia P	.76	.32	M,T,W,Th, F,Su	.08
"	No P	.76	.32	Su,T,W,Th, F,M	.08
	Bro P	.41	.17	Su,T,W,Th, F,M	.08
	Lgs P	.59	.32	Su,T,W,Th, Sa,M	.08
Joao Pessoa (Cabadello)	Mia P	1.25	.43	.....	.20
"	No P	1.64	.43	.....	.20
"	Bro P	1.64	.43	.....	.20
"	Lgs P	2.20	.43	.....	.20
Kingston, Jamaica	Mia P	.39	.17	Dly	.10
"	Mia K	.32	.17	Su,T,W,F,Sa	.15
La Ceiba, Honduras	MiaTA	.53	.20	Frequently	.10
La Guaira, Venezuela	Mia P	.75	.32	Dly	.15
"	Mia K	.73	.32	Dly	.10
"	No P	1.08	43	Dly	.15
"	Bro P	1.15	43	Dly	.15
"	Lgs P	1.75	43	Dly	.15
La Paz, Bolivia	Mia P	1.25	43	M,T,W,Th,Sa	.20
"	No P	1.30	43	M,T,W,Th,Sa	.20
"	Bro P	1.30	43	Su,M,T,W,F	.20
"	Lgs P	1.95	43	Su,M,T,Th,Sa	.20
Libertad, Nicaragua	MiaTA	.58	.20	Frequently	.10
Lima, Peru	Mia P	1.18	43	Dly	.15
"	No P	1.24	43	Dly	.15
"	Bro P	1.24	43	Dly	.15
"	Lgs P	1.88	43	Dly	.15
Limon, Costa Rica	MiaTA	.64	.20	Frequently	.10
Loja, Ecuador	Mia P	1.08	43	W,Su,F	.15
"	No P	1.17	43	W,Su,F	.15
"	Bro P	1.17	43	T,Th,Sa	.15
"	Lgs P	1.78	43	M,W,F	.15
Maceio, Brazil	Mia P	1.26	43	M,T,Th,Sa	.20
"	No P	1.68	43	Su,M,W,F	.20
"	Bro P	1.68	43	Su,T,Th,Sa	.20
"	Lgs P	2.24	43	M,W,F,Sa	.20
Managua, Nicaragua	Mia P	.76	32	Dly	.10
"	No P	.71	32	Twice Dly	.10
"	Bro P	.71	32	Dly	.10
"	Lgs P	1.22	43	Dly	.10
Manaos, Brazil	Mia P	1.24	43	W,Su,Sa	.20
"	No P	1.56	43	T,F,Sa	.20
"	Bro P	1.56	43	M,Th,F	.20
"	Lgs P	2.13	43	Su,W,Th	.20
Manta, Ecuador	Mia P	1.03	32	W,F	.15
"	No P	1.14	43	W,F	.15
"	Bro P	1.14	43	T,Th	.15
"	Lgs P	1.74	43	M,W	.15
Manzanillo, Cuba	Mia P	.26	.17	Dly	.08
Maracaibo, Venezuela	Mia P	.69	32	Dly	.15
"	Mia K	.66	32	Dly	.15
"	No P	1.06	43	Dly	.15
"	Bro P	1.08	43	Dly	.15
"	Lgs P	1.66	43	Dly	.15
Maturin, Venezuela	Mia P	.89	32	Dly	.15
"	No P	1.17	43	Dly	.15
"	Bro P	1.19	43	Dly	.15
"	Lgs P	1.80	43	Dly	.15
Mazatlan, Mexico	Bro P	.57	32	Dly	.08
"	Lgs P	.45	.17	Dly	.08
Medellin, Colombia	Mia P	1.06	32	Dly	.15
"	No P	1.10	43	M,T,F,Sa	.15
"	Bro P	1 10	43	Su,M,Th,F	.15
"	Lgs P	1 65	43	Su,W,Th,Sa	.15
Mendoza, Argentina	Mia P	1 41	43	Su,M,W,F,Sa	.20
"	No P	1 55	43	Su,M,W,F,Sa	.20
"	Bro P	1 55	43	Su,T,Th,F,Sa	.20
"	Lgs P	2 11	43	M,W,Th,F,Sa	.20
Merida, Mexico	Mia P	.37	.17	Dly	.08
"	No P	.37	.17	Twice Dly	.08
"	Bro P	.55	.32	Dly	.08
"	Lgs P	1 04	32	Dly	.08
"	Dl B	.56	32	Dly	.08
"	Fv B	.56	32	Dly	.08
"	Lo B	.42	32	Dly	.08
"	Sa B	.49	32	Dly	.08
Mexicali, Mexico	Lgs P	.20	.15	Dly	.08
Mexico City, Mexico	Mia P	.64	32	Dly	.08
"	No P	.64	32	Dly	.08
"	Dl B	.36	17	Dly	.08
"	Bro P	.26	17	Thrice Dly	.08
"	Lgs A	.67	17	Dly	.08
"	Lgs P	.67	32	Dly	.08
"	Lo B	.24	17	Dly	.08
"	Fv B	.40	17	Dly	.08
"	Fv A	.40	17	Dly	.08
"	Eo A	.42	17	Dly	.08
"	Sa A	.33	17	Dly	.08
"	Sa B	.30	17	Dly	.08
Minatitlan, Mexico	Mia P	.53	.32	Dly	.08
"	No P	.53	.32	Dly	.08
"	Bro P	.39	17	Dly	.08
"	Lgs P	.86	32	Dly	.08
Monterrey, Mexico	Fv A	.27	.17	Dly	.08
"	Fv B	.27	.17	Dly	.08
"	Dl B	.27	.17	Dly	.08
"	Eo A	.34	.17	Dly	.08
"	Lgs A	.59	.17	Dly	.08
"	Lo B	.13	.15	Dly	.08
"	Sa A	.20	.15	Dly	.08
"	Sa B	.20	.15	Dly	.08
Montevideo, Uruguay	Mia P	1.60	43	M,W,F,Su	.20
"	No P	1.74	43	Su,T,Th,Sa	.20
"	Bro P	1.74	43	M,W,S,F	.20
"	Lgs P	2.30	58	Su,T,F,Th	.20
Mossoro, Brazil	Mia P	1.24	43	.....	.20
"	No P	1.56	43	.....	.20
"	Bro P	1.56	43	.....	.20
"	Lgs P	2.13	43	.....	.20
Nassau, Bahamas	Mia P	.20	.15	Dly ex Su	.10
Natal, Brazil	Mia P	1.25	43	M,T,Th,Sa	.20
"	No P	1.61	43	Su,M,W,F	.20
"	Bro P	1.61	43	Su,T,Th,Sa	.20
"	Lgs P	2.18	43	M,W,F,Sa	.20
Nuevo Laredo, Mexico	Dl B	.22	.17	Dly	.08
"	Fv B	.22	.17	Dly	.08
"	Sa B	.15	.15	Dly	.08
"	Lo B	.08	05	Dly	.08
Oaxaca, Mexico	Mia P	.73	32	M,W,Sa	.08
"	No P	.73	32	M,W,Sa	.08
"	Bro P	.35	17	Su,T,Th	.08
"	Lgs P	.81	32	M,W,Sa	.08
Oruro, Bolivia	Mia P	1.26	43	M,T,W,Th,Sa	.20
"	No P	1.33	43	M,T,W,Th,Sa	.20
"	Bro P	1.33	43	Su,M,T,W,F	.20
"	Lgs P	1.95	43	Su,M,T,Th,Sa	.20
Palmar, Costa Rica	MiaTA	.65	.20	Frequently	.10
Panama City, Panama	Mia P	.76	.32	Dly	.10
"	No P	.90	32	Dly	.10
"	Bro P	.90	32	Dly	.10
"	Lgs P	1.45	43	Dly	.10
Para, Brazil (*See Belem*)					
Paramaribo, Sur	Mia P	.97	.32	Dly	.15
"	Mia K	1.14	43	Su,Th	.15
"	No P	1.25	43	Dly	.15
"	Bro P	1.25	43	Dly	.15
"	Lgs P	1.90	43	Dly	.15
Parnahyba, Brazil	Mia P	1.21	43	W	.20
"	No P	1.48	43	T	.20
"	Bro P	1.48	43	M	.20
"	Lgs P	2.04	43	S	.20
Parrita, Costa Rica	MiaTA	.62	.20	Frequently	.10
Point a Pitre, Guadeloupe	Mia P	.66	.32	Sa	.10
"	No P	.98	.32	Su	.10
"	Bro P	1.14	43	Sa	.10
"	Lgs P	1.74	43	F	.10
Port au Prince, Haiti	Mia P	.37	.17	Thrice Dly	.10
"	Mia K	.30	.17	M,Th	.10
Port of Spain, Trinidad	Mia P	.79	.32	Dly	.10
"	Mia K	.89	.32	Su,Th	.10
"	MiaTA	.74	.20	Frequently	.10
"	No P	1.20	43	Dly	.10
"	Bro P	1.20	43	Dly	.10
"	Lgs P	1.81	43	Dly	.10
Porto Alegre, Brazil	Mia P	1.70	43	Su,M,W,F,Sa	.20
"	No P	2.19	43	Su,T,Th,F,Sa	.20
"	Bro P	2.19	43	M,W,Th,F,Sa	.20
"	Lgs P	2.75	.58	Su,T,W,Th,F	.20
Porto Armuelles,Panama	MiaTA	.70	.20	Frequently	.10
Porto Carbesas, Nic.	MiaTA	.50	.20	Frequently	.10
Preston, Cuba	Mia P	.24	.15	Dly	.08
Puebla, Puebla	Dl B	.41	.17	Dly	.08
"	Fu B	.41	.17	Dly	.08
"	Lo B	.27	.17	Dly	.08
"	Sa B	.34	.17	Dly	.08
Puerto Suarez, Bolivia	Mia P	1.41	43	Sa	.20
"	No P	1.56	43	Sa	.20
"	Bro P	1.56	43	F	.20
"	Lgs P	2.13	43	Th	.20
Puntarenas, Costa Rica	MiaTA	.63	.20	Frequently	.10
Quito, Ecuador	Mia P	.97	.32	Dly	15
"	No P	1.09	43	Dly	15
"	Bro P	1.09	43	Dly	15
"	Lgs P	1.68	43	Dly	15
Recife (Pernambuco), Brasil	Mia P	1.26	43	M,T,Th,Sa	.20
"	No P	1.65	43	Su,M,W,F	.20
"	Bro P	1.65	43	Su,T,Th,Sa	.20
"	Lgs P	2.21	43	M,W,F,Sa	.20
Rio de Janeiro	Mia P	1.50	43	Su,M,W,F,Sa	.20
"	MiaTA	1.41	43	Frequently	.20
"	No P	1.98	43	Su,T,Th,F,Sa	.20
"	Bro P	1.98	43	M,W,Th,F,Sa	.20
"	Lgs P	2.54	.58	Su,T,W,Th,F	.20
Robore, Bolivia	Mia P	1.38	43	Sa	.20
"	No P	1.51	43	Sa	.20
"	Bro P	1.51	43	F	.20
"	Lgs P	2.08	43	Th	.20
Salinas, Ecuador	Mia P	1.05	32	W,F	15
"	No P	1.15	43	W,F	15
"	Bro P	1.15	43	T, Th	.15
"	Lgs P	1.75	43	M,W	.15
Salta, Argentina	Mia P	1.30	43	T,Th,Sa	.20
"	No P	1.45	43	T,Th,Sa	.20
"	Bro P	1.45	43	M,W,F	.20
"	Lgs P	2.03	43	Su,T,Th	.20
San Ignacio, Bolivia	Mia P	1.33	43	Sa	.20
"	No P	1.48	43	Sa	.20
"	Bro P	1.48	43	F	.20
"	Lgs P	2.04	43	Th	.20
San Jose, Bolivia	Mia P	1.35	43	Sa	.20
"	No P	1.50	43	Sa	.20
"	Bro P	1.50	43	F	.20
"	Lgs P	2.08	43	Th	.20
San Jose, Costa Rica	Mia P	.83	.32	Dly	10
"	MiaTA	.60	.20	Frequently	10
"	No P	.76	.32	Twice Dly	10
"	Bro P	.76	.32	Dly	10
San Jose, Costa Rica *Cont.*	Lgs P	1.31	.43	Dly	10
San Juan, Puerto Rico	Mia P	.53	.32	Thrice Dly	08
San Pedro Sula, Hond.	MiaTA	.53	.20	Frequently	10
San Salvador, El Salvador	Mia P	.64	32	Dly	10
"	MiaTA	.55	.20	Frequently	10
"	No P	.61	.32	Twice Dly	10
"	Bro P	.61	.32	Dly	10
"	Lgs P	1.14	.43	Dly	10
Santa Cruz, Bolivia	Mia P	1.28	.43	M,W,Sa	.20
"	No P	1.43	.43	M,W,Sa	.20
"	Bro P	1.43	.43	Su,T,F	.20
"	Lgs P	1.99	.43	M,Th,Sa	.20
Santiago, Chile	Mia P	1.38	.43	Su,M,W,F,Sa	.20
"	No P	1.51	.43	Su,M,W,F,Sa	.20
"	Bro P	1.51	.43	Su,T,Th,F,Sa	.20
"	Lgs P	2.08	.43	M,W,Th,F,Sa	.20
Santiago, Cuba	Mia P	.26	.17	Dly	.08
Sao Luis, Brazil	Mia P	1.19	.43	M,T,Th,Sa	.20
"	No P	1.43	.43	Su,M,W,F	.20
"	Bro P	1.43	.43	Su,T,Th,Sa	.20
"	Lgs P	1.99	.43	W,F,Sa,M	.20
Sao Paolo, Brazil	Mia P	1.55	.43	Su,M,W,F,Sa	.20
"	No P	2.04	.43	Su,T,Th,F,Sa	.20
"	Bro P	2.04	.43	M,W,Th,F,Sa	.20
"	Lgs P	2.60	.58	Su,T,W,Th,F	.20
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.43	M,T,W,Th,Sa	.20
"	No P	1.76	.42	Su,M,T,W,F	.20
"	Bro P	1.76	.43	Su,M,T,Th,Sa	.20
"	Lgs P	2.33	.58	Su,M,W,F,Sa	.20
St. Martin, N.W.I.	.....	1.20	.58	Su	.10
St. Thomas, V. I.	Mia P	.57	.32	Sa	.08
"	No P	.90	.32	Su	.08
"	Bro P	1.10	.43	Sa	.08
"	Lgs P	1.68	.43	F	.08
Suina, Nicaragua	MiaTA	.54	.20	Frequently	.10
Talara, Peru	Mia P	1.08	.43	Dly	.15
"	No P	1.17	.43	Dly	.15
"	Bro P	1.17	.43	Dly	.15
"	Lgs P	1.79	.43	Dly	.15
Tampico, Mexico	Bro P	.20	15	Dly	.08
"	Lgs P	.81	.32	Dly	.08
Tapachula, Mexico	Mia P	.74	.32	Dly	.08
"	No P	.74	.32	Dly	.08
"	Bro P	.53	.32	Dly	.08
"	Lgs P	1.02	.32	Dly	.08
Tegucigalpa, Honduras	Mia P	.69	.32	Dly	.10
"	MiaTA	.50	.20	Frequently	.10
"	No P	.68	.32	Twice Dly	.10
"	Bro P	.68	.32	Dly	.10
"	Lgs P	1.18	.43	Dly	.10
Tela, Honduras	MiaTA	.53	.20	Frequently	.10
Tres Lagaos, Brazil	Mia P	1.53	43	.....	.20
"	No P	1.86	43	.....	.20
"	Bro P	1.66	43	.....	.20
"	Lgs P	2.23	43	.....	.20
Tucuman, Argentina	Mia P	1.34	43	T,Th,Sa	.20
"	No P	1.49	43	T,Th,Sa	.20
"	Bro P	1.49	43	M,W,F	.20
"	Lgs P	2.05	43	T,Th,Su	20
Turbo, Colombia	Mia P	1.06	32	Dly	15
"	No P	1.10	43	T,F	15
"	Bro P	1.10	43	M,T,Th	.15
"	Lgs P	1.65	43	W,Th	.15
Tuxpan, Mexico	Bro P	.20	.15	Dly	08
"	Lgs P	.83	.32	Dly	08

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ¼ Oz.
Tuxtla,Gutierrez,Mexico	Mia P	.81	.32	M,W,Sa	.08
"	No P	.81	.32	M,W,Sa	.08
"	Bro P	.45	.17	Su,T,Th	.08
"	Lgs P	.93	.32	M,W,Sa	.08
Uyuni, Bolivia	Mia P	1.26	.43	T,Th	.20
"	No P	1.38	.43	T,Th	.20
"	Bro P	1.38	.43	M,W	.20
"	Lgs P	1.95	.43	Su,Th	.20
Veracrus, Mexico	Mia P	.57	.32	Dly	.08
"	No P	.57	.32	Dly	.08
"	Bro P	.33	.17	Dly	.08
"	Lgs P	.70	.32	Dly	.08
"	Dl B	.42	.32	Dly	.08
"	Fv B	.42	.32	Dly	.08
"	Lo B	.28	.17	Dly	.08
"	Sa B	.35	.17	Dly	.08
Victoria, Brazil	Mia P	1.41	.43	Th,Sa	.20
"	No P	1.90	.43	W,F	.20
"	Bro P	1.90	.43	T,Th	.20
"	Lgs P	2.46	.58	M,W	.20
Villahermosa, Mexico	Mia P	.49	.32	Dly	.08
"	No P	.49	.32	Dly	.08
"	Bro P	.43	.17	Dly	.08
"	Lgs P	.90	.32	Dly	.08

Note: Charges Collect and C. O. D. Services have been resumed to Pan American Airways Airports in the following countries: Canal Cone — Costa Rica — Cuba — Dominican Republic—El Salvador—Guatemala—Haiti—Honduras—Panama Republic—Puerto Rico—Surinam—Trinidad—Venezuela—Virgin Islands; also charges collect (no C. O. D.) service to Nicaragua.

ATLANTIC ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Amsterdam, Netherlands	NykAO	1.55	.25	T	.30
Bolama, Portuguese Guinea, Africa	Nyk P	2.66	.43	Fortnightly	.50
Botwood Newfoundland	Nyk P	.81	32	Su,W,F	.15
Copenhagen, Denmark	NykAO	1.90	25	F	.30
Dakar, Senegal, Africa		2.36	.43	T	.45
Foynes, Eire via Botwood	Nyk P	1.78	.43	Su,W,F	.30
Hamilton, Bermuda	Nyk P	.37	.17	T,W,F,Sa	.10
Leopoldville, Belg. Congo	Nyk P	3.63	.43	Alt. Su	.60
Lisbon, Portugal	Nyk P	1.28	.43	T,F	.30
London, England	Bw AO	1.39	25	T	.30
"	Cg AO	1.66	25	M	.30
"	NykAO	1.45	25	Su,T,W,Th,Sa	.30
"	Nyk P	1.17	.43	M,W,F,Sa	.30
"	Ph AO	1.48	25	F	.30
"	Wa AO	1.51	25	W,F	.30
Monrovia (Fisherman's Lake), Liberia	Nyk P	2.67	.43	T	.50
Paris, France	BwTW	2.01	.25	Th	.30
"	NykTW	2.03	.25	Dly	.30
"	Ph TW	2.04	.25	M	.30
"	WaTW	2.06	.25	Dly	.30
Scotland via Foynes*	Nyk P	(Rates on Application)			.30
Shediac, N. B.	Nyk P	.51	.17	Su,W,F	.08
Shannon, Eire	Bw AO	1.29	.25	T	.30
"	BwTW	1.76	.20	Th	.30
"	Cg AO	1.55	.25	M	.30
"	NykAO	1.35	.25	Su,T,W,Th,Sa	.30
"	Nyk P	1.09	.43	M,W,F,Sa	.30
"	NykTW	1.78	.25	Dly	.30
"	Ph AO	1.38	.25	F	.30
"	Ph TW	1.79	.25	M	.30
"	Wa AO	1.41	.25	W,F	.30
"	WaTW	1.81	.25	Dly	.30
Stockholm, Sweden	NykAO	1.99	.25	F	.30
Wales via Foynes*	Nyk P	(Rates on Application)			.30

ALASKA ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Aniak Alaska	Ste P	.83	.32	Sa	.08
Bethel "	Ste P	.86	.32	Sa	.08
Burwash Landing "	Ste P	.55	.32	Dly	.08
Fairbanks "	Ste P	.68	.32	Dly	.08
Flat "	Ste P	.79	.32	Sa	.08
Galena "	Ste P	.77	.32	S,T,Th	.08
Juneau "	Ste P	.43	.17	Thrice Dly	.08
Ketchikan "	Ste P	.33	.17	Thrice Dly	.08
Lake Minchumina "	Ste P	.73	.32	Sa	.08
McGrath "	Ste P	.76	.32	Sa	.08
Moses Point "	Ste P	.82	.32	Su,T,Th	.08
Nome "	Ste P	.85	.32	S,T,Th	.08
Tanacross "	Ste P	.62	.32	Dly	.08
Tanana "	Ste P	.73	.32	Dly	.08
Whitehorse, Canada	Ste P	.49	.32	Dly	.08

CANADIAN ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Calgary, Alb.	Nyk T	1.02	†	Dly	.08
Edmonton, Alb.	Nyk T	1.06	†	Dly	.08
Halifax, N. S.	Nyk T	.31	†	Dly	.08
Lethbridge, Alb.	Nyk T	.88	†	Dly	.08
"	CubW	.04	†	Dly	.08
London, Ont.	Nyk T	.22	†	Dly	.08
Moncton, N. B.	BbNE	.08	†	Dly	.08
Montreal, Que.	Nyk C	.12	†	Dly	.08
"	Nyk T	.12	†	Dly	.08
"	Jg NE	04	†	Dly	.08
North Bay, Ont.	Nyk T	27	†	Dly	.08
Ottawa, Ont.	Nyk T	18	†	Dly	.08
"	Nyk C	.16	†	Dly	.08
Regina, Sask.	Nyk T	.80	†	Dly	.08
St. John, N. B.	Nyk T	.31	†	Dly	.08
St. Johns, N. F.	Nyk T	.58	†	Dly	.08
Sydney, N. S.	Nyk T	.36	†	Dly	.08
Toronto, Ont.	Nyk A	.16	†	Dly	.08
"	Nyk T	.16	†	Dly	.08
Vancouver, B. C.	Ste U	03	†	Dly	.08
"	Nyk T	.96	†	Dly	.08
Windsor, Ont.	Nyk A	.20	†	Dly	.08
"	Cg A	.12	†	Dly	.08
"	Nyk T	.20	†	Dly	.08
Winnipeg, Man.	GfNW	04	†	Dly	.08
"	Nyk T	60	†	Dly	.08

PACIFIC ROUTES

Destination	U. S. Gateway & Airline	RATES (See Note) Per Lb.	Per $100 Value	Depart	Mail per ½ Oz.
Honolulu, T. H.	Sf P	93	32	Dly	.08

OFF-LINE SERVICE—EUROPE

Destination	Connecting Point and Airline	RATES (See No.e) Per Lb.	Min. Charge	Depart	Mail per ½ Oz.
Brussels, Belgium	London P	.12	.52		.30
Geneva, Switzerland	London P	.31	1.36		.30
Goteborg, Sweden	London P	.45	2.00		.30
Paris, France	London P	.15	.64		.30
"	Shannon TW	.46			.30
Stockholm, Sweden	London P	.54	2 40		.30
Zurich, Switzerland	London P	.33	1 44		.30

Note: Pan American Airways requires the prepayment of all charges, plus a fixed off-line deposit to cover costs of transshipment and reforwarding to final destination of the shipment. This off-line deposit consists of poundage charges from London to final destination of shipment, plus transshipment bonded entry fee in England, and trucking charge to airport of despatch in England. Transshipment bonded entry fee in England is as follows: one package or first package of a lot shipment—$1.86; each additional package—$.32; excess valuation charge on shipments valued for carriage in the airwaybill in excess of U.S. $400, for each additional $400 (over the first $400)—$.32. Trucking charge to airport of despatch in England is $.02 per pound, with no minimum charge.

SCALE OF RATES COVERING WAR RISKS GENERALLY IN USE IN AMERICAN MARINE INSURANCE MARKETS FOR MAIL AND AIR SHIPMENTS

Schedule Dated March 15, 1946

A—Registered Mail, excluding Registered Air Mail and Air Express:
All securities, including non-negotiables, documents and similar interests—25% of Cargo Rates, with 1½c minimum. Currency including jewelry, precious stones and metals, etc.—100% of Cargo Rates.

B—Registered Air Mail and/or Air Express and/or other shipments by air: Western Hemisphere (excluding shipments between points in Continental United States and/or Canada:

	All classes of property
Sendings between points in Western Hemisphere	2½c%
U. S. or Canada to or from:	
1. British Isles, Eire, Sweden, Holland, Belgium, France, Portugal, Spain, Italy, Switzerland, Iceland, Greenland	2½c%
2. Africa, except Egypt	2½c%
3. Arabia, Egypt, Palestine, Syria, Cyprus, Turkey, Greece, Iran, Iraq	5c%
4. Afghanistan, India, Ceylon	7½c%
5. Chungking	7½c%
6. Australasia	2½c%
7. Philippines	7½c%

C—Ordinary Parcel Post, Government Insured Parcel Post, Registered Post, Ordinary Mail (Excluding Air Mail)

(A) United States or Canada to from Australasia, Hawaiian and other Pacific Islands—Transpacific Cargo Rate.

(B) U. S. to from United Kingdom, Eire, Portugal, Spain, Africa, Near East, Far East, Newfoundland, Iceland, Greenland, Bermuda—Cargo Schedule Rate to from New York but with respect to shipments to or from Spain under policies endorsed with the airborne clause, the Lisbon rate will be charged plus an additional charge of 2½¢% because of the possibility that shipments of valuables may go forward to or from interior points by Air.

(C) U. S. West of Rockies to from Costa Rica, Panama, Panama Canal Zone, Colombia, Ecuador, Peru, Bolivia and Chile—Cargo Schedule Rate for Pacific voyages to from San Francisco.

(D) U. S. West of Rockies to from Venezuela, Guianas, Brazil, Paraguay, Uruguay, Argentina—Cargo Schedule Rate via Panama to from San Francisco.

(E) U. S. East of Rockies to from Costa Rica, Panama, Panama Canal Zone, So. America, West Indies (except Bermuda)—Schedule Rate to from U. S. Gulf.

(F) *U. S. West of Rockies to from Mexico—25% of Schedule Cargo Rate for Pacific voyages to from San Francisco with a minimum of 2½¢%.

*U. S. East of Rockies to from Mexico—25% of Schedule Cargo Rate to from United States Gulf with a minimum of 2½¢%.

(G) U. S. to from British Honduras, Guatemala, Republic of Honduras, El Salvador and Nicaragua—Cargo Schedule Rate for voyages between U. S. Gulf and East Coast Central America.

* Note: Reduced percentage provided assured agrees to pay this percentage on all shipments; otherwise individual shipments on Facultative Basis Cargo Schedule Rate for Pacific voyages to from San Francisco. Cargo Schedule Rate to from United States Gulf. Rates in this Section are not subject to revision, either upward or downward, should be actual route of the shipments become known.

D—Express (Excluding Air Express)—Charge Cargo War Risk Schedule Rates.

TABLE OF AIRLINE DISTANCES BETWEEN PRINCIPAL CITIES OF THE UNITED STATES

(Distances in Statute Miles)

FROM TO	Atlanta	Baltimore	Boston	Brownsville	Buffalo	Chicago	Cincinnati	Cleveland	Denver	Detroit	El Paso	Jacksonville	Kansas City, Mo.	Los Angeles	Memphis	Miami	Minneapolis	New Orleans	New York	Oklahoma City	Philadelphia	Pittsburgh	Portland, Ore.	Richmond	St. Louis	Salt Lake City	San Francisco	Seattle	Washington, D.C.
Atlanta	....	575	933	960	695	583	368	550	1208	595	1293	286	675	1935	335	610	905	427	747	753	663	520	2172	470	467	1580	2133	2180	542
Baltimore	575	....	358	1513	273	603	423	305	1505	398	1750	682	962	2313	792	958	948	1001	170	1173	90	194	2367	135	731	1858	2451	2341	33
Boston	933	358	....	1881	398	849	737	550	1766	613	2067	1015	1250	2590	1133	1258	1125	1359	188	1490	268	478	2553	471	1036	2099	2696	2508	392
Brownsville	960	1513	1881	....	1575	1234	1182	1402	1085	1398	682	1025	935	1370	775	1100	1348	536	1695	659	1614	1424	1952	1403	975	1317	1675	2015	1493
Buffalo	695	273	398	1575	....	454	392	175	1368	218	1690	880	862	2195	802	1184	733	1087	291	1117	278	178	2167	375	662	1701	2298	2130	290
Chicago	583	603	849	1234	454	....	249	307	918	236	1249	861	413	1741	481	1190	356	831	711	689	664	411	1765	618	1259	1260	1855	1743	594
Cincinnati	368	423	737	1182	392	249	....	218	1090	234	1333	628	541	1892	410	957	603	708	568	755	501	258	1987	385	308	1450	2037	1974	403
Cleveland	550	305	550	1402	175	307	218	....	1223	94	1521	768	700	2044	627	1088	632	922	404	946	343	115	2063	353	490	1567	2163	2035	303
Denver	1208	1505	1766	1085	1368	918	1090	1223	....	1153	554	1468	555	828	878	1732	699	1079	1628	503	1575	1320	985	1485	793	372	946	1020	1490
Detroit	595	398	613	1398	218	236	234	94	1153	....	1475	832	643	1976	621	1156	542	938	483	905	444	208	1975	445	452	1490	2087	1945	397
El Paso	1293	1750	2067	682	1690	1249	1333	1521	554	1475	....	1481	836	702	978	1662	1156	986	1902	578	1834	1592	1286	1695	1033	689	993	1373	1726
Jacksonville	286	682	1015	1025	880	861	628	768	1468	832	1481	....	952	2153	591	328	1192	511	838	988	758	703	2442	550	755	1840	2375	2450	647
Kansas City, Mo.	675	962	1250	935	862	413	541	700	555	643	836	952	....	1352	555	1247	413	678	1097	293	1037	784	1397	935	238	922	1500	1505	943
Los Angeles	1935	2313	2590	1370	2195	1741	1892	2044	828	1976	702	2153	1352	....	1602	2355	1522	1675	2446	1182	2388	2135	825	2283	1585	577	345	956	2295
Memphis	335	792	1133	775	802	481	410	627	878	621	978	591	370	1602	....	878	700	358	953	422	878	660	1852	715	242	1250	1800	1867	763
Miami	610	958	1258	1100	1184	1190	957	1088	1732	1156	1662	328	1247	2355	878	....	1516	681	1095	1233	1023	1014	2716	831	1067	2089	2603	2740	927
Minneapolis	905	948	1125	....	733	356	603	632	699	542	1156	1192	413	1522	700	1516	....	1050	1019	692	985	745	1435	1185	464	988	1585	1403	936
New Orleans	427	1001	1359	536	1087	831	708	922	1079	938	986	511	678	1675	358	681	1050	....	1173	575	1090	923	2063	899	599	1433	1923	2098	968
New York	747	170	188	1695	291	711	568	404	1628	483	1902	838	1097	2446	953	1095	1019	1173	....	1324	83	313	2455	287	873	1972	2568	2419	204
Oklahoma	753	1173	1490	659	1117	689	755	946	503	905	578	988	293	1182	422	1233	692	575	1324	....	1256	1013	1488	1122	456	862	1386	1523	1150
Philadelphia	663	90	268	1614	278	664	501	343	1575	444	1834	758	1037	2388	878	1023	985	1090	83	1256	....	254	2419	205	808	1923	2518	2388	122
Pittsburgh	520	194	478	1424	178	411	258	115	1320	208	1592	703	784	2135	660	1014	745	923	313	1013	254	....	2174	242	561	1670	2264	2145	188
Portland, Ore.	2172	2367	2553	1952	2167	1765	1987	2063	985	1975	1286	2442	1397	825	1852	2716	1435	2063	2455	1488	2419	2174	....	2392	1723	636	536	143	2360
Richmond	470	135	471	1403	375	618	385	353	1485	445	1695	550	935	2283	715	831	1185	899	287	1122	205	242	2393	....	699	1850	2436	2362	96
St. Louis	467	731	1036	975	662	259	308	490	793	452	1033	755	238	1585	242	1067	464	599	873	456	808	561	1723	699	....	1158	1738	1722	710
Salt Lake City	1580	1858	2099	1317	1701	1260	1450	1567	372	1490	639	1840	922	577	1250	2098	988	1433	1972	862	1923	1670	636	1850	1158	....	592	697	1845
San Francisco	2133	2451	2696	1675	2298	1855	2037	2163	946	2087	993	2375	1500	345	1800	2603	1585	1923	2568	1386	2518	2264	536	2436	1738	592	....	680	2437
Seattle	2180	2341	2508	2015	2130	1743	1974	2035	1020	1945	1373	2450	1505	956	1867	2740	1403	2098	2419	1523	2388	2145	143	2362	1722	697	680	....	2335
Washington, D.C.	542	33	392	1493	290	594	403	303	1490	397	1726	647	943	2295	763	927	936	968	204	1150	122	188	2360	96	710	1845	2437	2335	....

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